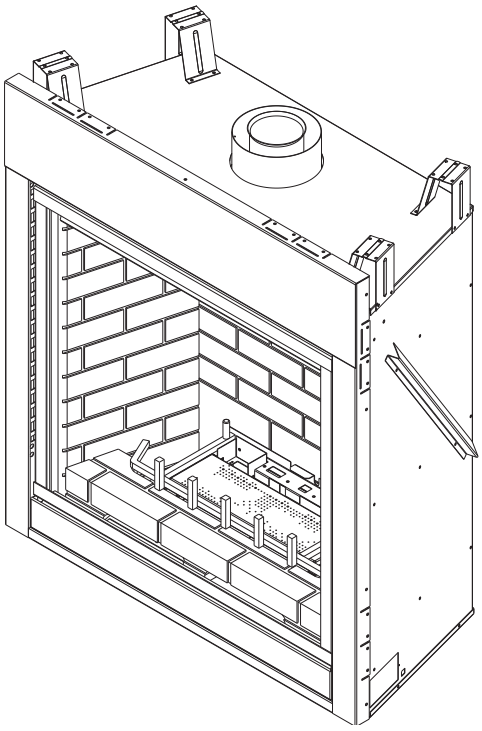
MHSC
Monessen Hearth Systems Company

DVBL7 Series
Direct Vent Gas Fireplace

Model: 400DVBLNV7CE



Installation and Operating Instructions

WARNINGS

IF THE INFORMATION IN THESE INSTRUCTIONS ARE NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- WHAT TO DO IF YOU SMELL GAS
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

WARNING: Improper installation, adjustment, alteration, services or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

DUE TO HIGH TEMPERATURES, THE APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.

CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURE AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION.

YOUNG CHILDREN SHOULD BE SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.

CLOTHING OR OTHER FLAMMABLE MATERIAL SHOULD NOT BE PLACED ON OR NEAR THE APPLIANCE.

KEEP THE ROOM AREA CLEAR AND FREE FROM COMBUSTIBLE MATERIALS, GASOLINE, AND OTHER FLAMMABLE VAPORS AND LIQUIDS.

INSTALLER: Leave this manual with the appliance. CONSUMER: Retain this manual for future reference.

20301763 5/10 Rev. 2

Thank you and congratulations on your purchase of a MHSC Fireplace.

PLEASE READ THE INSTALLATION AND OPERATION INSTRUCTIONS BEFORE USING THE APPLIANCE!

IMPORTANT: Read all instructions and warnings carefully before starting installation.
Failure to follow these instructions may result in a possible fire hazard and will void the warranty.

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INSTALLER

Please leave these instructions with the appliance.

OWNER

Please retain these instructions for future reference.

WARNING

- **Read this owner's manual carefully and completely before trying to assemble, operate, or service this fireplace.**
- **Any change to this fireplace or its controls can be dangerous.**
- **Improper installation or use of this fireplace can cause serious injury or death from fire, burns, explosions, electrical shock and carbon monoxide poisoning.**

This fireplace is a vented product. This fireplace must be properly installed by a qualified service person. The glass door must be properly seated and sealed. If this unit is not properly installed by a qualified service person with glass door properly seated and sealed, combustion leakage can occur.

CARBON MONOXIDE POISONING: Early signs of carbon monoxide poisoning are similar to the flu with headaches, dizziness and/or nausea. If you have these signs, the fireplace may not have been installed properly. Get fresh air at once! Have the fireplace inspected and serviced by a qualified service person. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

Propane/LP gas and natural gas are both odorless. An odor-making agent is added to each of these gases. The odor helps you detect a gas leak. However, the odor added to these gases can fade. Gas may be present even though no odor exists.

Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this fireplace.

1. This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases unless a certified kit is used.
2. If you smell gas
   - shut off gas supply.
   - do not try to light any appliance.
   - do not touch any electrical switch; do not use any phone in your building .
   - immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
3. Never install the fireplace
   - in a recreational vehicle
   - where curtains, furniture, clothing, or other flammable objects are less than 42" (1067 mm) from the front, top, or sides of the fireplace
   - in high traffic areas
   - in windy or drafty areas
4. This fireplace reaches high temperatures. Keep children and adults away from hot surfaces to avoid burns or clothing ignition. Fireplace will remain hot for a time after shutdown. Allow surfaces to cool before touching.
5. Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces.
6. Do not modify fireplace under any circumstances. Any parts removed for servicing must be replaced prior to operating fireplace.
7. Turn fireplace off and let cool before servicing, installing, or repairing. Only a qualified service person should install, service, or repair the fireplace. Have burner system inspected annually by a qualified service person.
8. You must keep control compartments, burners, and circulating air passages clean. More frequent cleaning may be needed due to excessive lint and dust. Turn off the gas valve and pilot light before cleaning fireplace.
9. Have venting system inspected annually by a qualified service person. If needed, have venting system cleaned or repaired. Refer to *Cleaning and Maintenance*, Page 31.
10. Keep the area around your fireplace clear of combustible materials, gasoline, and other flammable vapor and liquids. Do not run fireplace where these are used or stored. Do not place items such as clothing or decorations on or around fireplace.
11. Do not use this fireplace to cook food or burn paper or other objects.
12. Never place anything on top of fireplace.

Continued on page 4

13. Do not use any solid fuels (wood, coal, paper, cardboard, etc.) in this fireplace. Use only the gas type indicated on rating plate.
14. This appliance, when installed, must be electrically grounded in accordance with local codes or in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70*, or the *Canadian Electrical Code, CSA C22.1.*
15. Do not obstruct the flow of combustion and ventilation air in any way. Provide adequate clearances around air openings into the combustion chamber along with adequate accessibility clearance for servicing and proper operation.
16. When the appliance is installed directly on carpeting, tile or other combustible material other than wood flooring, you must set appliance on a metal or wood panel or hearth pad extending the full width and depth of the appliance.
17. Do not use fireplace if any part has been exposed to or has been under water. Immediately call a qualified service technician to inspect the appliance and replace any part of the control system and any gas control which as been submerged in water.
18. Do not operate fireplace if any log is broken.
19. Do not use a blower insert, heat exchanger insert, or any other accessory not approved for use with this fireplace.
20. Do not operate the fireplace with glass door removed, cracked, or broken.

IMPORTANT:
PLEASE READ THE FOLLOWING CAREFULLY
It is normal for fireplaces fabricated of steel to give off some expansion and/or contraction noises during the start up or cool down cycle. Similar noises are found with your furnace heat exchanger or car engine.

IMPORTANT:
PLEASE READ THE FOLLOWING CAREFULLY
It is not unusual for gas fireplace to give off some odor the first time it is burned. This is due to the manufacturing process.

Please ensure that your room is well ventilated during burn off — open all windows.

It is recommended that you burn your fireplace for at least ten (10) hours the first time you use it. Place the fan switch in the “OFF” position during this time.

WARNING

Never connect unit to private (non-utility) gas wells. This gas is commonly known as wellhead gas.

CODE APPROVAL

Direct Vent type appliances draw all combustion air from outside of the dwelling through the vent pipe.

These appliances have been tested and found to comply with the established standards for DIRECT VENT GAS FIREPLACE HEATERS:

LISTED VENTED GAS FIREPLACE HEATER

PRODUCT SPECIFICATIONS

- This appliance has been certified for use with either natural or propane gas. See appropriate data plates.
- This appliance is not for use with solid fuels.
- The appliance is approved for bedroom or bedsitting room installations.
- The appliance must be installed in accordance with local codes if any. If none exist use the current installation code. ANSI Z223.1/NFPA 54 in the USA, CSA B149 in Canada.
- This appliance is mobile home appr-oved.
- The appliance must be properly connected to a venting system.
- The appliance is not approved for closet or recessed installations.

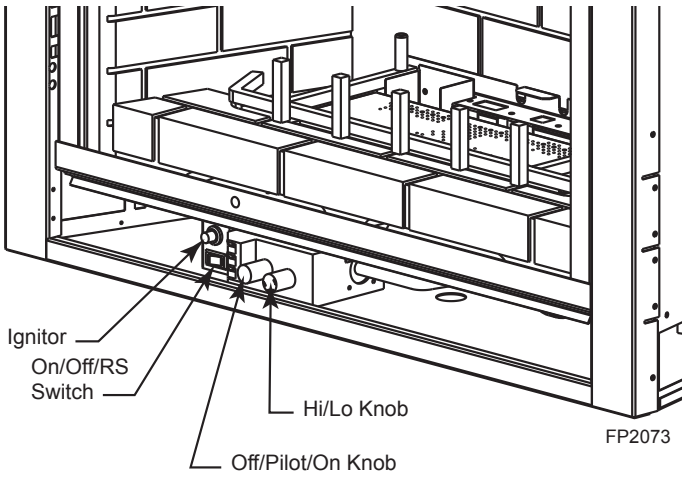


Figure 1 - DVBL7 Series Fireplace (Millivolt Control shown)

HIGH ELEVATIONS

Input ratings are shown in BTU per hour and are certified without deration for elevations up to 4,500 feet (1,370 m) above sea level.

For elevations above 4,500 feet (1,370 m) in USA, installations must be in accordance with the current ANSI Z223.1/NFPA 54 and/or local codes having jurisdiction.

GAS PRESSURES

	Natural
Inlet Minimum	4.5” w.c. (11.2 mbar)
Inlet Maximum	10.5” w.c. (26.2 mbar)
Manifold Pressure	3.5” w.c. (8.7 mbar)

GAS SPECIFICATIONS & ORIFICE SIZE

Model	Max.Input Fuel	Min. Input BTU/h	Orifice BTU/h	Size
400DVBLNV7CE	Nat.	26,000 (7.62 kw)	21,000 (6.2 kw)	2.5 mm

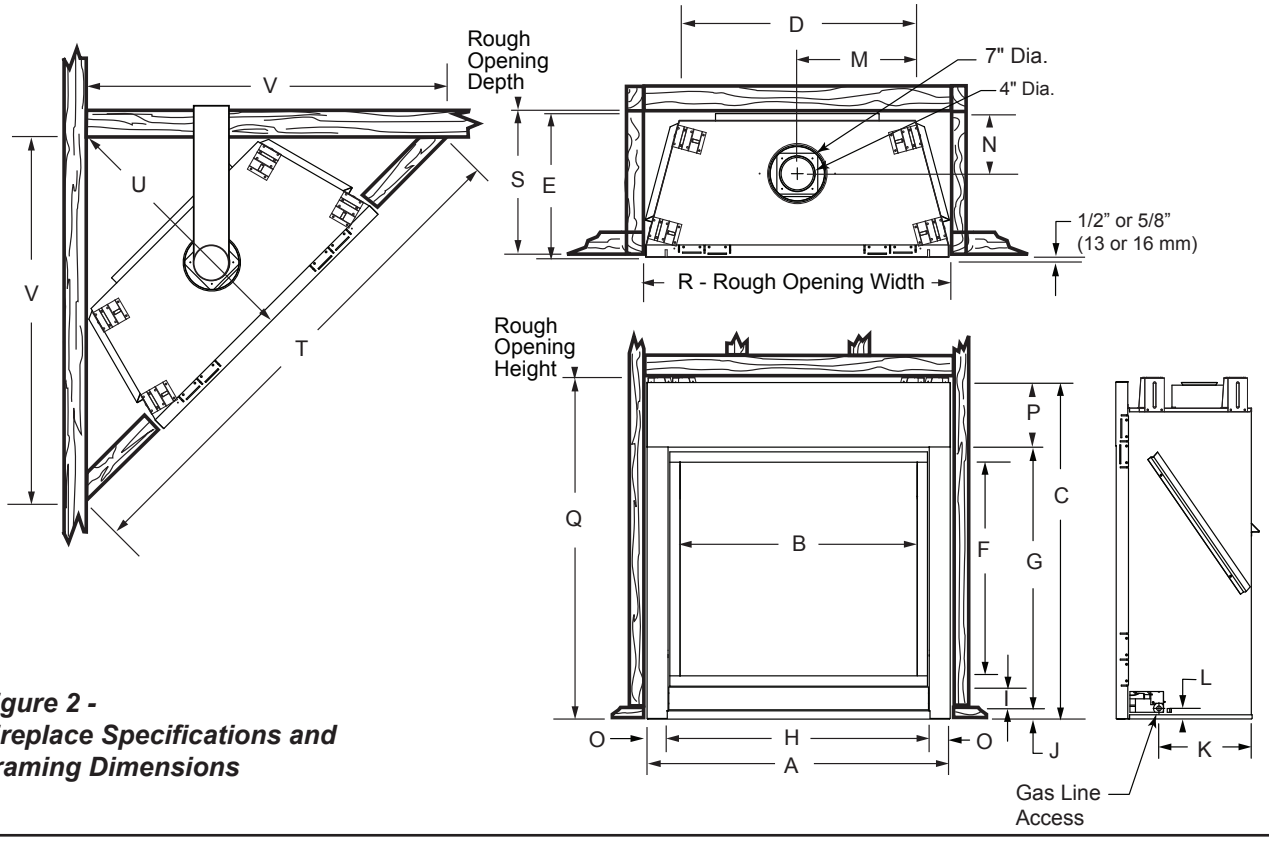


Figure 2 - Fireplace Specifications and Framing Dimensions

400DVBL		
A	37 1/16"	(941 mm)
B	29"	(737 mm)
C	40 5/8"	(1032 mm)
D	30 1/4"	(768 mm)
E	17 9/16"	(446 mm)
F	25 13/16"	(656 mm)
G	31 7/8"	(810 mm)
H	31 15/16"	(811 mm)
I	3"	(76 mm)
J	1"	(25 mm)
K	11 3/8"	(289 mm)
L	15/16"	(24 mm)
M	15 1/8"	(384 mm)
N	7 5/17"	(186 mm)
O	2 9/16"	(65 mm)
P	7 3/4"	(197 mm)
Framing Dimensions		
Q	41 3/4"	(1061 mm)
R	37 7/16"	(951 mm)
S	17 1/16"	(433 mm)
T	64 3/4"	(1645 mm)
U	32 3/8"	(822 mm)
V	45 13/16"	(1164 mm)

BEFORE YOU START

Read this homeowner manual thoroughly and follow all instructions carefully. Inspect all contents for shipping damage and immediately inform your dealer if any damage is found. Do not install any unit with damaged, incomplete, or substitute parts. Check your packing list to verify that all listed parts have been received. You should have the following:

- Fireplace (Firebox and Burner System)
- Rock Wool
- Log Set

ITEMS REQUIRED FOR INSTALLATION

- Phillips Screwdriver
- Hammer
- Saw and/or saber saw
- Electric Drill and Bits
- Pliers
- Square
- Framing Materials
- Wall Finishing Materials
- Level
- Tee Joint
- Measuring Tape
- Pipe Wrench
- Caulking Material (Noncombustible)
- Fireplace Surround Material (Noncombustible)
- Piping Complying with Local Codes
- Pipe Sealant Approved for use with Propane/LPG (Resistant to Sulfur Compounds)

WARNING

Do not fill spaces around firebox with insulation or other materials. This could cause a fire.

NOTE

COLD CLIMATE INSULATION

If you live in a cold climate, seal all cracks around your appliance, and wherever cold air could enter the room, with noncombustible material. It is especially important to insulate the outside chase cavity between the studs and under the floor on which the appliance rests, if the floor is above ground level.

FIREBOX FRAMING

Firebox framing can be built before or after the appliance is set in place. Construct firebox framing following *Figure 2* for your specific installation requirements. Refer to *Figure 2* for firebox dimensions. The framing headers may rest on the top of the firebox standoffs. Do not bring headers below top of standoffs. **NOTE:** When planning your framing and installation, keep in mind that your gas line will come in on the right side of the box (as you are facing it) and your electricity will come in on the left side.

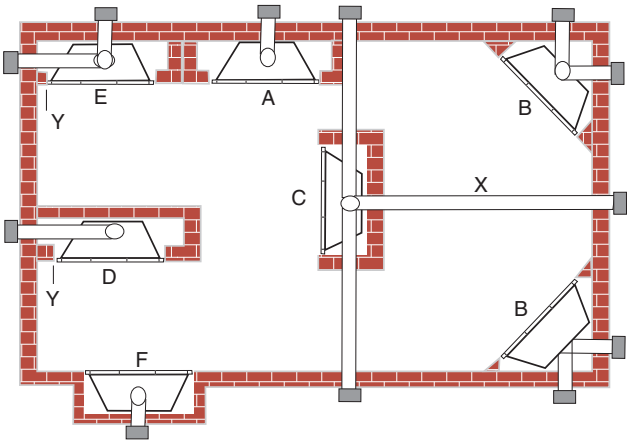
The firebox may be installed directly on a combustible floor or raised on a platform of an appropriate height. When the firebox is installed directly on carpeting, tile, or other combustible material, other than wood flooring, the firebox shall be installed on a metal or wood panel extending the full width and depth of the enclosure.

FIREPLACE LOCATION

Plan for the installation of your appliance. This includes determining where the unit is to be installed, the vent configuration to be used, framing and finishing details, and whether any optional accessories (i.e. blower, wall switch, or remote control) are desired. Consult your local building code agency to ensure compliance with local codes, including permits and inspections.

The following factors should be taken into consideration:

- Clearance to side-wall, ceiling, woodwork, and windows. Minimum clearances to combustibles **must be maintained.**
- This fireplace may be installed along a wall, across a corner, or use an exterior chase. Refer to *Figure 3* for suggested locations.
- Location should be out of high traffic areas and away from furniture and draperies due to heat from appliance.
- Never obstruct the front opening of the fireplace.
- Do **not** install in the vicinity where gasoline or other flammable liquids may be stored.
- Vent pipe routing. Refer to *Venting* section found in this manual for allowable venting configurations.
- These units can be installed in a bedroom. Refer to National Fuel Gas Code ANSI Z233.1/NFPA 54 — (current edition), the Uniform Mechanical Code — (current edition), and Local Building Codes for specific installation requirements.
- These units can be installed in a bathroom.



A Flat on Wall
B Cross Corner
C Island**
D Room Divider*
E Flat on Wall Corner*
F Chase Installation
Y 4" Minimum

** Island (C) and room divider (D) installation is possible as long as the horizontal portion of vent system (X) does not exceed 20'.

* When you install your fireplace in (D) room divider or (E) flat on wall corner positions (Y), a minimum of 4" clearance must be maintained from perpendicular wall and front of fireplace.

Figure 3 -
Possible Fireplace Locations

CLEARANCES TO COMBUSTIBLES

WARNING

Follow these instructions carefully to ensure safe installation. Failure to follow instructions exactly can create a fire hazard.

The appliance cannot be installed on a carpet, tile or other combustible material other than wood flooring. If installed on carpet or vinyl flooring, the appliance shall be installed on a metal, wood or noncombustible material panel extending full width and depth of the appliance.

NOTE

All mantel shelves, regardless of depth, should be a minimum of 13" from top opening of fireplace. Mantel shelf shall not exceed 12" maximum depth at 13" minimum height from opening.

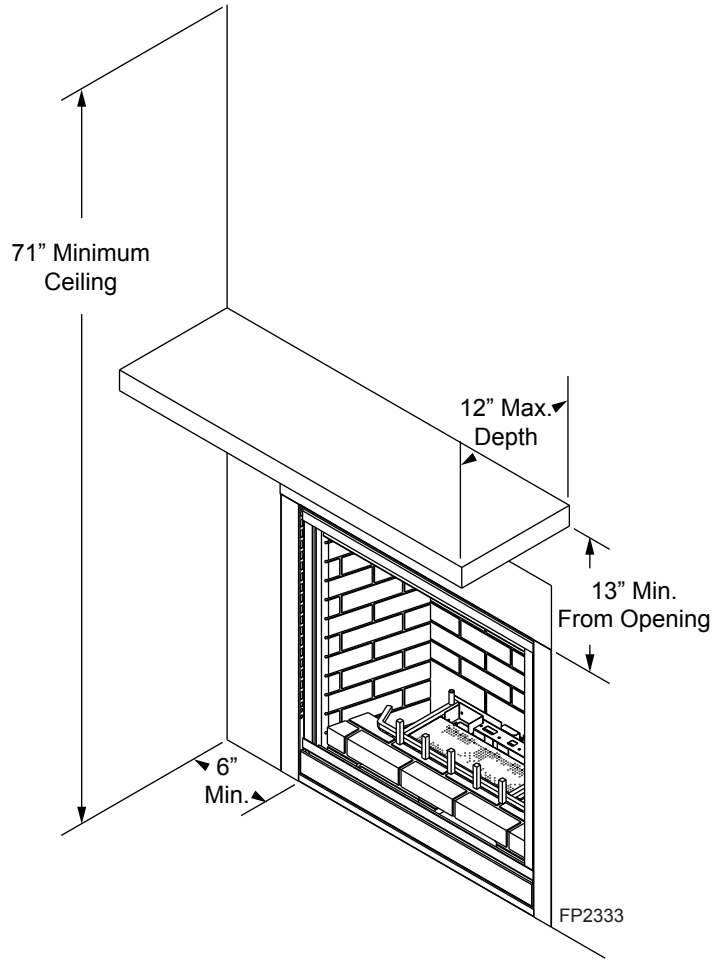


Figure 4 -
Clearances From The Mantel, Ceiling, and Side Wall

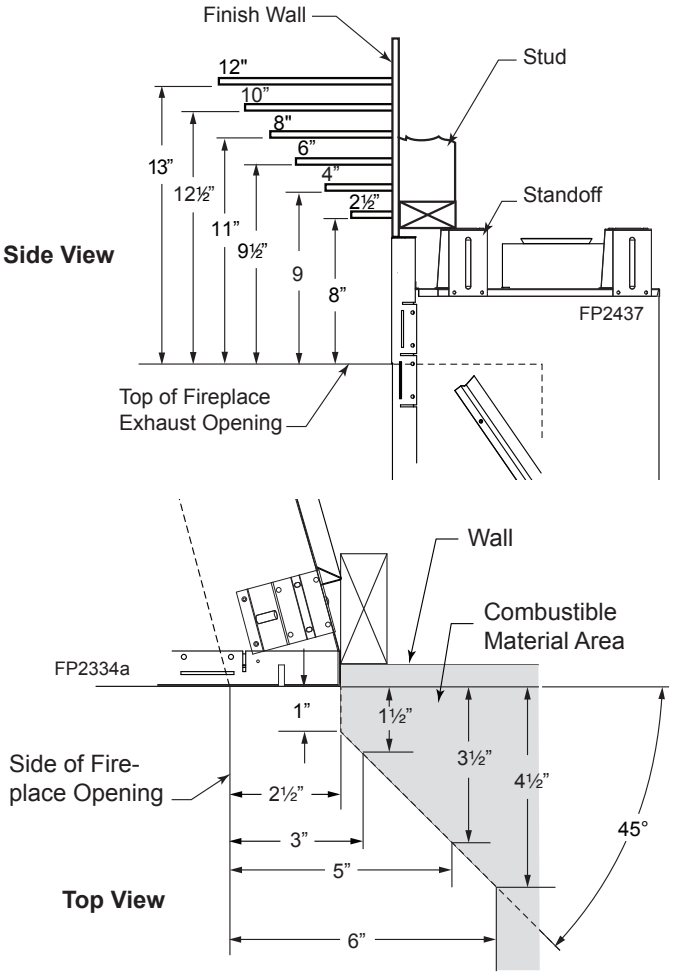


Figure 5 -
Mantel Clearances

MANTEL CLEARANCES

NOTE: The combustible area above the facing must not protrude more than 3/4" from the facing. If it does, it is considered a mantel and must meet the mantel requirements listed in this manual.

The fireplace must be secured to the floor and/or to framing studs as shown in *Figure 6.* Use two (2) wood screws or masonry/ concrete screws to secure fireplace to the floor. Use four (4) screws to attach fireplace to framing. The side nailing flanges are 1/2" or 5/8" to accommodate different wall thickness.

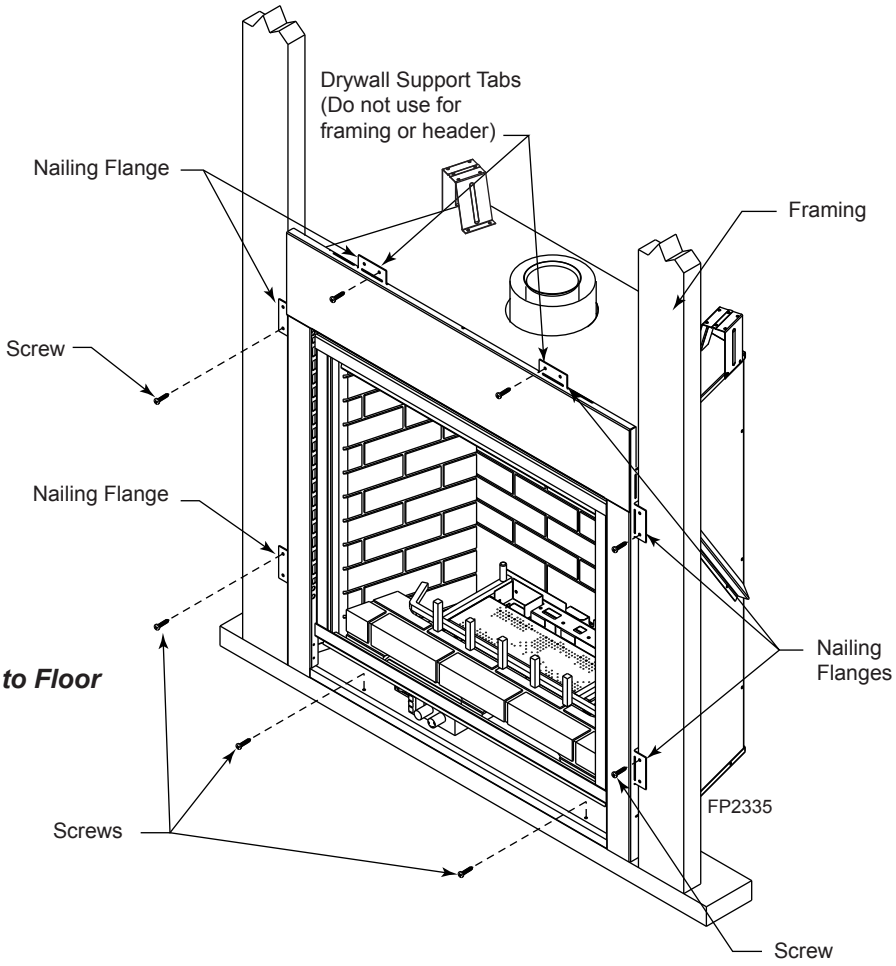


Figure 6 -
Securing Fireplace to Floor and Framing Studs

FINISHING MATERIAL

NOTE: Any remote wiring (i.e. remote control, wall switch, and optional fan) must be done prior to final finishing to avoid costly reconstruction.

Only noncombustible materials (i.e. brick, tile, slate, steel, or other materials with a UL fire rating of Zero) may be used to cover the black painted face of the appliance. It is permissible to bring combustible wall board to the top and side edges of the black painted face. A 300°F minimum adhesive may be used to attach facing materials to the black surface. If joints between the finished wall and the fireplace surround are sealed, a 300°F minimum sealant material (General Electric RTV103 or equivalent) must be used.

WARNING **Read all instructions completely and thoroughly before attempting installation. Failure to do so could result in serious injury, property damage or loss of life. Operation of improperly installed and maintained venting system could result in serious injury, property damage or loss of life.**

INSTALLATION PRECAUTIONS

Consult local building codes before beginning the installation. The installer must make sure to select the proper vent system for installation. Before installing vent kit, the installer must read this fireplace manual and vent kit instructions.

Only a qualified installer/service person should install venting system. The installer must follow these safety rules:

- Wear gloves and safety glasses for protection.
- Use extreme caution when using ladders or when on rooftops.
- Be aware of electrical wiring locations in walls and ceilings.

The following actions will void the warranty on your venting system:

- Installation of any damaged venting component.
- Unauthorized modification of the venting system.
- Installation of any component part not manufactured or approved by MHSC.
- Installation other than permitted by these instructions.

NOTICE **Failure to follow these instructions will void the warranty.**

WARNING **This fireplace must be vented to the outside. The venting system must NEVER be attached to a chimney serving a separate solid fuel burning appliance. Each gas appliance must use a separate vent system. Do not use common vent systems.**

GENERAL VENTING

Your fireplace is approved to be vented either through the side wall, or vertical through the roof.

- **Only MHSC venting components specifically approved and labelled for this fireplace may be used.**
- Flexible UL1777 listed venting may be used in any venting application where rigid direct vent components can be used. All restrictions, clearances and allowances that pertain to the rigid piping apply to the flexible venting.
  Flex kits may not be modified. Flex kits may be added to the end of a vent run made of rigid vent sections using pipe manufacturer's approved flex to pipe adapters. This may occur only if doing so does not violate any of the venting length, height, routing, horizontal to vertical ratio requirements or clearance considerations detailed in this manual.
- Venting terminals shall not be recessed into a wall or siding.
- Horizontal venting which incorporates the T-lock pipe must be installed on a level plane without an inclining or declining slope.
- Horizontal venting which incorporates the use of flex venting shall have an inclining slope from the unit of 1” (25 mm) per 24” (610 mm).

There must not be any obstruction such as bushes, garden sheds, fences, decks or utility buildings within 24” (610 mm) from the front of the termination hood.

Do not locate termination hood where excessive snow or ice build up may occur. Be sure to check vent termination area after snow falls, and clear to prevent accidental blockage of venting system. When using snow blowers, make sure snow is not directed towards vent termination area.

Location of Vent Termination

It is imperative the vent termination be located observing the minimum clearances as shown on following page.

WARNING **Always maintain minimum clearances around vent systems. The minimum clearances to combustibles for horizontal vent pipe are 3" at the top* and 1" at the sides and bottom of the vent system until the pipe penetrates the nearest vertical wall (1" required). A 1" minimum clearance all around the pipe must be maintained at outside wall and on vertical runs. Do not pack the open air spaces with insulation or other materials. This could cause high temperatures and may present a fire hazard.**
*** Unless the vertical run is 7½ feet or higher (top vent units only), the clearances for the horizontal run is 1" at the top.**

GENERAL VENTING INFORMATION - TERMINATION LOCATION

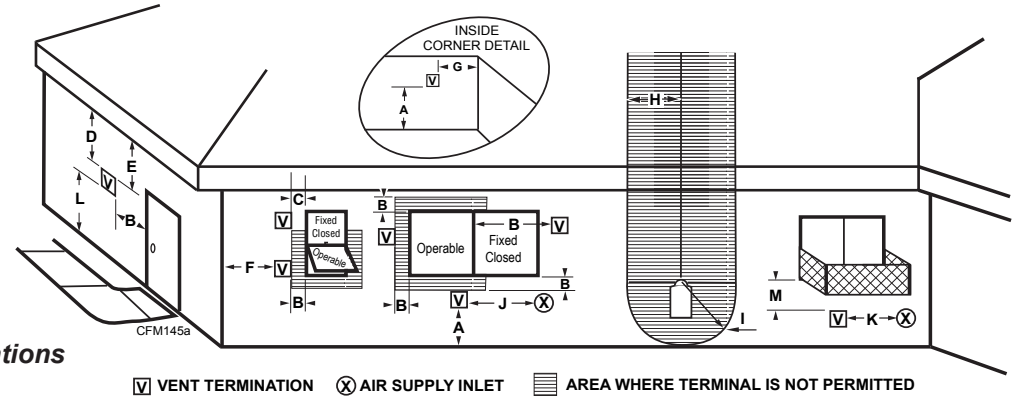


Figure 7 - Termination Locations

V VENT TERMINATION X AIR SUPPLY INLET AREA WHERE TERMINAL IS NOT PERMITTED

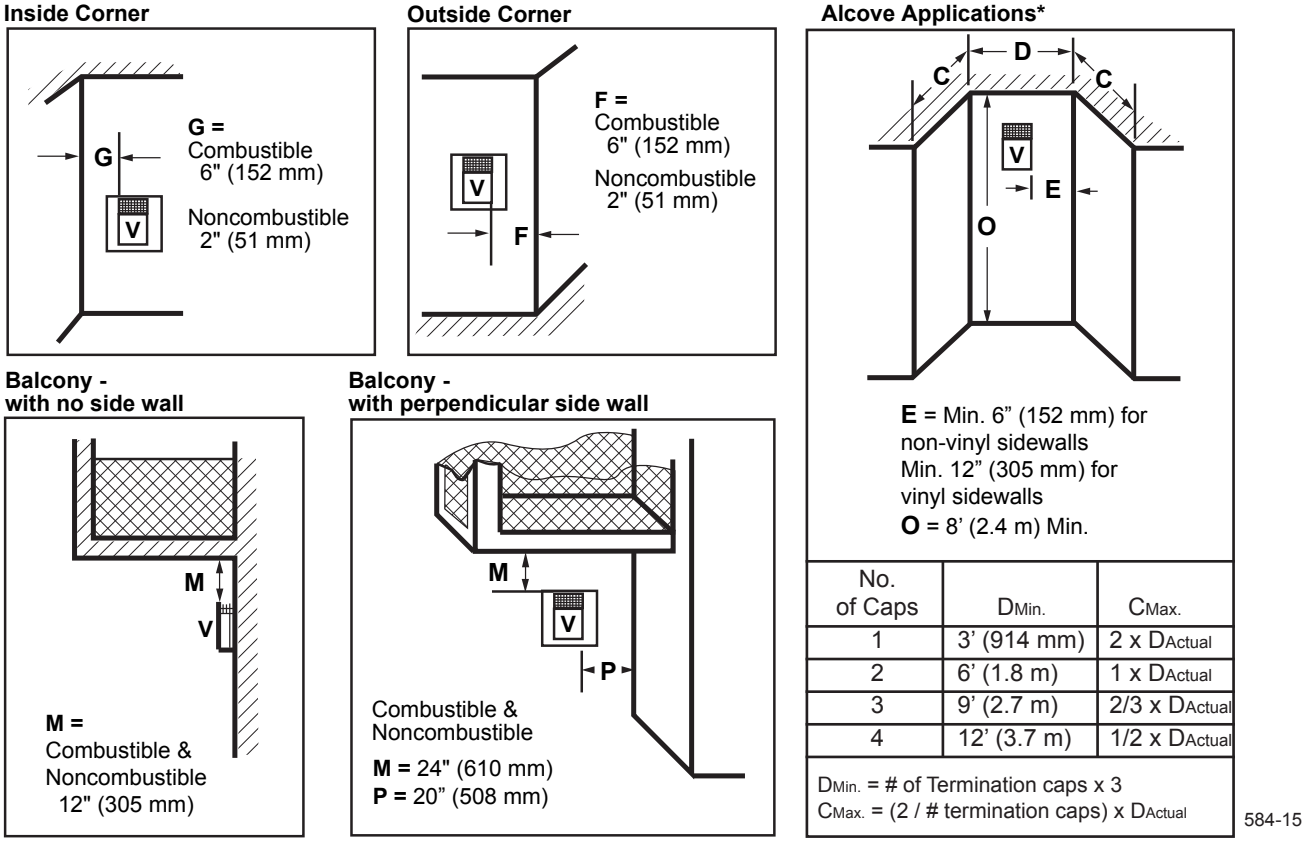
	Canadian Installations[1]	US Installations[2]
A = Clearance above grade, veranda, porch, deck, or balcony	12” (30 cm)	12” (30 cm)
B = Clearance to window or door that may be opened	6” (15 cm) for appliances < 10,000BTU/h (3kW), 12” (30 cm) for appliances > 10,000 Btuh (3kW) and < 100,000 BTU/h (30kW), 36” (91 cm) for appliances > 100,000 BTU/h (30kW)	6” (15 cm) for appliances < 10,000 BTU/h (3kW), 9” (23 cm) for appliances > 10,000 Btuh (3kW) and < 50,000 BTU/h (15kW), 12” (30 cm) for appliances > 50,000 BTU/h(15kW)
C = Clearance to permanently closed window	12” (305 mm) recommended to prevent window condensation	12” (305 mm) recommended to prevent window condensation
D = Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2’ (610mm) from the center line of the terminal	18” (458 mm)	18” (458 mm)
E = Clearance to unventilated soffit	12” (305 mm)	12” (305 mm)
F = Clearance to outside corner	see next page	see next page
G = Clearance to inside corner (see next page)	see next page	see next page
H = Clearance to each inside of center line extended above meter/regulator assembly	3’ (91 cm) within a height of 15’ (5 m) above the meter/regulator assembly	3’ (91 cm) within a height of 15’ (5 m) above the meter/regulator assy
I = Clearance to service regulator vent outlet	3’ (91 cm)	3’ (91 cm)
J = Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliances	6” (15 cm) for appliances < 10,000 BTU/h (3kW), 12” (30 cm) for appliances > 10,000 BTU/h (3kW) and < 100,000 Btuh (30kW), 36” (91 cm) for appliances > 100,000 BTU/h (30kW)	6” (15 cm) for appliances < 10,000 BTU/h (3kW), 9” (23 cm) for appliances > 10,000 BTU/h (3kW) and < 50,000 BTU/h (15kW), 12” (30 cm) for appliances > 50,000 BTU/h(15kW)
K = Clearance to a mechanical air supply inlet	6’ (1.83 m)	3’ (91 cm) above if within 10' (3 m) horizontally
L = Clearance above paved sidewalk or paved driveway located on public property	7’ (2.13 m)†	7’ (2.13 m)†
M = Clearance under veranda, porch, deck or balcony	12” (30 cm)‡	12” (30cm)‡

1 In accordance with the current CSA-B149 Installation Codes
2 In accordance with the current ANSI Z223.1/NFPA 54 National Fuel Gas Codes
† A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings
‡ only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor:

NOTE: 1. Local codes or regulations may require different clearances.
2. The special venting system used on Direct Vent Fireplaces are certified as part of the appliance, with clearances tested and approved by the listing agency.
3. MHSC assumes no responsibility for the improper performance of the appliance when the venting system does not meet these requirements.

Termination Clearances

Termination clearances for buildings with combustible and noncombustible exteriors.



No. of Caps	$D_{Min.}$	$C_{Max.}$
1	3' (914 mm)	2 x D_{Actual}
2	6' (1.8 m)	1 x D_{Actual}
3	9' (2.7 m)	2/3 x D_{Actual}
4	12' (3.7 m)	1/2 x D_{Actual}

$D_{Min.}$ = # of Termination caps x 3
$C_{Max.}$ = (2 / # termination caps) x D_{Actual}

584-15

***NOTE:** Termination in an alcove space (spaces open only on one side and with an overhang) is permitted with the dimensions specified for vinyl or non-vinyl siding and soffits. 1. There must be a 3' (914 mm) minimum between termination caps. 2. All mechanical air intakes within 10' (1 m) of a termination cap must be a minimum of 3' (914 mm) below the termination cap. 3. All gravity air intakes within 3' (914 mm) of a termination cap must be a minimum of 1' (305 mm) below the termination cap.

Figure 8 - Termination Clearances

GENERAL INFORMATION ASSEMBLING VENT PIPES

USA Installations

The venting system must conform to local codes and/or the current National Fuel Code ANSI Z223.1/NFPA 54.

Only venting components manufactured by MHSC may be used in Direct Vent systems.

Canadian Installations

The venting system must be installed in accordance with the current CSA-B149.1 installation code.

FLEX VENT PIPES

Before joining the flex vent pipe to the unit, apply a bead of high temperature sealant* (provided) to the 4" pipe exiting the fireplace. Secure flex vent pipe in place with a hose clamp (provided).

*Be sure the flex pipe overlaps at least 1" (25 mm) onto the collars of the fireplace and termination. If the termination has an internal bead, be sure to overlap and secure 1" (25 mm) past the bead.

* Be sure the vent is actually crushed before proceeding. Apply a tug to be sure the vent will not slip off the collars. Repeat process with 7" flex vent pipe. The same procedure must be performed on the vent side.

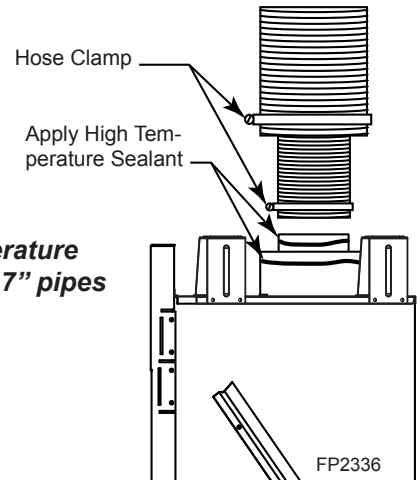


Figure 9 - Apply high temperature sealant to 4" and 7" pipes

T-LOCK PIPES

When using unitized T-Lock pipe it is not necessary to use sealant on the joints. The only areas of the venting system that need to be sealed with high temperature silicone sealant are the sliding joints of any telescope vent sections used in the system.

To join T-Lock pipes together, simply align both inner and outer pipes with the next section. Align the internal beads of the female with the T-channels of the male end. *Figure 10*

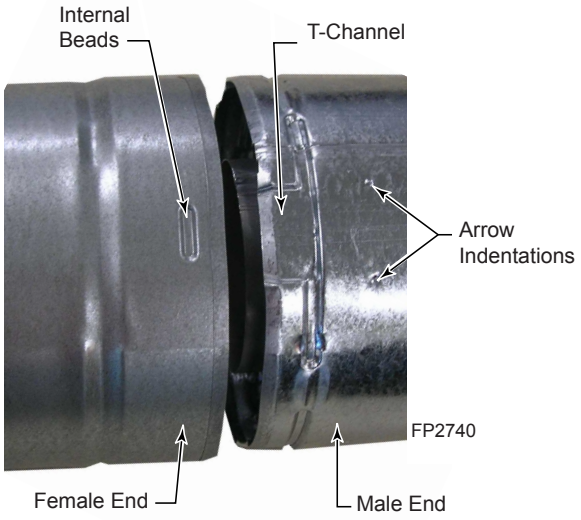


Figure 10 - T-Lock Pipe Joints

Insert male end until beads on the female end contact bottom of T-channel on male end. Twist pipe until beads stop at ends of T-channel.

IMPORTANT: Pipe can be twisted in either direction. However, ALL PIPE SECTIONS MUST BE ROTATED IN THE SAME DIRECTION.

Securing the joints with sheet metal screws is not required.

To make it easier to assemble the joints, we suggest putting lubricant (Vaseline or similar) on the male end of the T-Lock pipe prior to assembly.

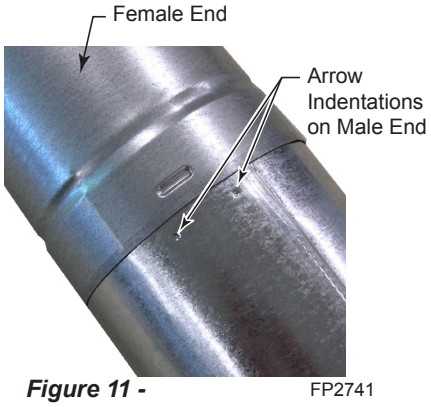


Figure 11 - T-Lock Disassemble

To disassemble T-Lock pipe, rotate pipe sections until internal beads on female end are centered between the arrow indentations on male end. *Figure 11.* Pipe sections will then easily separate by pulling straight apart.

HOW TO USE THE VENT GRAPH

The Vent Graph should be read in conjunction with the following vent installation instructions to determine the relationship between the vertical and horizontal dimensions of the vent system.

1. Determine the height of the center of the horizontal vent pipe exiting through the outer wall. Using this dimension on the Sidewall Vent Graph, *Figure 12*, locate the point intersecting with the slanted graph line.
2. From the point of this intersection, draw a vertical line to the bottom of the graph.
3. Select the indicated dimension, and position the fireplace in accordance with same.

EXAMPLE A:
If the vertical dimension from the floor of the unit is 11’ (3.4 m) the horizontal run to the face of the outer wall must not exceed 14’ (4.3 m).

EXAMPLE B:
If the vertical dimension from the floor of the unit is 7’ (2.1 m), the horizontal run to the face of the outer wall must not exceed 7’ (2.1 m).

Refer to *Page 18* for requirements for snorkels.

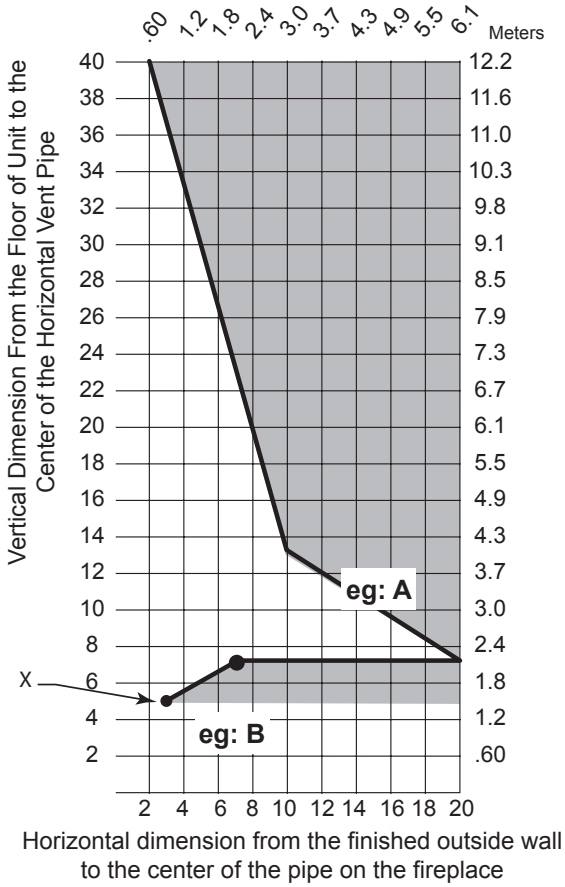

.60 1.2 1.8 2.4 3.0 3.7 4.3 4.9 5.5 6.1 Meters
Vertical Dimension From the Floor of Unit to the Center of the Horizontal Vent Pipe
40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2
12.2 11.6 11.0 10.3 9.8 9.1 8.5 7.9 7.3 6.7 6.1 5.5 4.9 4.3 3.7 3.0 2.4 1.8 1.2 .60
X
eg: A
eg: B
2 4 6 8 10 12 14 16 18 20
Horizontal dimension from the finished outside wall to the center of the pipe on the fireplace

Figure 12 - Rear Wall Venting Graph

X = 57" (1.5 m) minimum (Floor to center of horizontal pipe)

WARNING

Horizontal sections of this vent system require a minimum of 3" clearances to combustibles at the top of the flue and 1" clearance at the sides and bottom *until the flue penetrates the outside wall.* A minimum 1" clearance all around the flue is acceptable at this point of penetration.

If the vertical rise is 7 1/2 ft. or more, only a 1" clearance is needed on top of any horizontal run.

Vertical sections of this vent system require a minimum of 1" clearance to combustibles on all sides of the pipe.

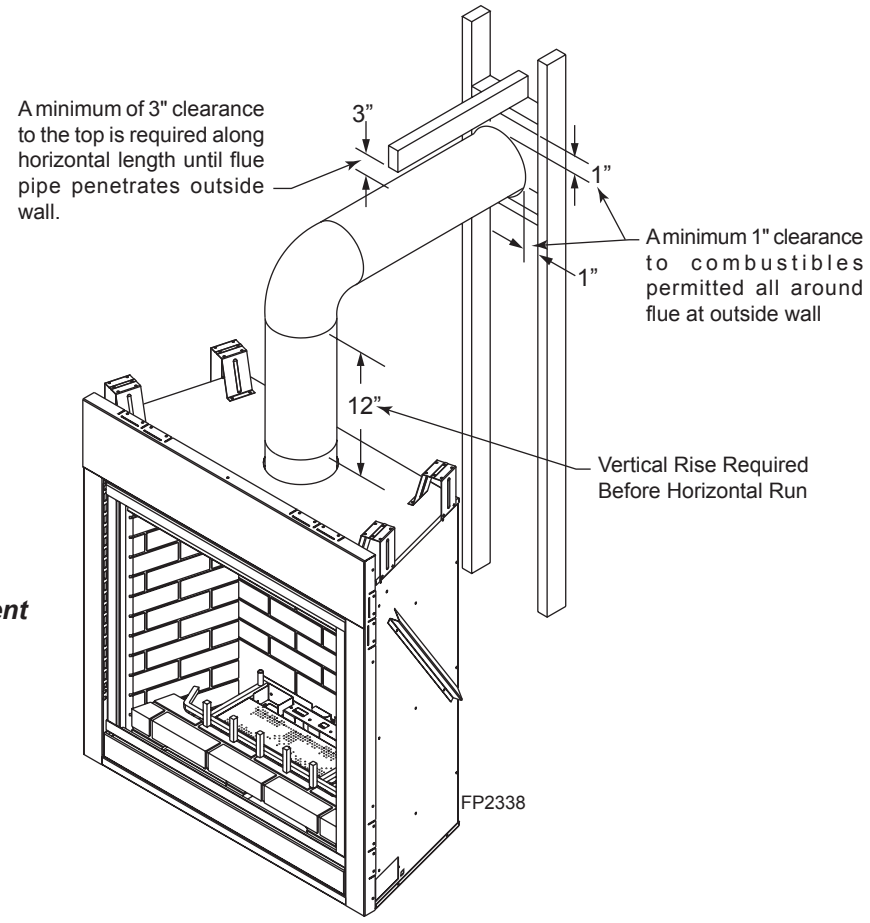

A minimum of 3" clearance to the top is required along horizontal length until flue pipe penetrates outside wall.
3”
1”
1”
A minimum 1" clearance to combustibles permitted all around flue at outside wall
12”
Vertical Rise Required Before Horizontal Run
FP2338

Figure 13 - Combustible Clearances for Vent Pipe

VERTICAL SIDEWALL APPLICATION

Minimum clearance between vent pipes and combustible materials is 3" (76 mm) on top, and 1" (25 mm) on the bottom and sides unless otherwise noted. Refer to Page 15

When vent termination exits through foundations less than 20” (508 mm) below siding outcrop, the vent pipe must flush up with the siding.

It is best to locate the fireplace in such a way that minimizes the number of offsets and horizontal vent length.

The horizontal vent run refers to the total length of vent pipe from the flue collar of the fireplace (or the top of the Transition Elbow) to the face of the outer wall.

Horizontal plane means no vertical rise exists on this portion of the vent assembly.

- The maximum number of 90° elbows per side wall installation is three (3). *Figure 14*
- If the min. 12" rise with a 90° elbow is fitted directly on top of the first 12" section, the maximum horizontal vent run before the termination or a vertical rise is 36” (914 mm). *Figure 15*
- If a 90° elbow is used in the horizontal vent run (level height maintained) the horizontal vent length is reduced by 36” (914 mm). *Figures 15 & 16.* This does not apply if the 90° elbows are used to increase or redirect a vertical rise. *Figure 14*

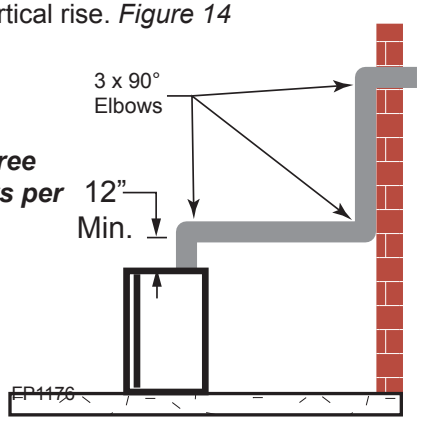


Figure 14 - Maximum Three (3) 90° Elbows per Installation

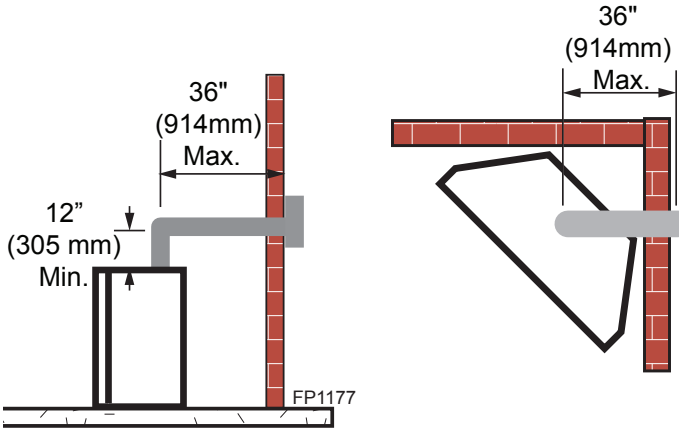


Figure 15 - Maximum Horizontal Run with 12 Minimum Rise

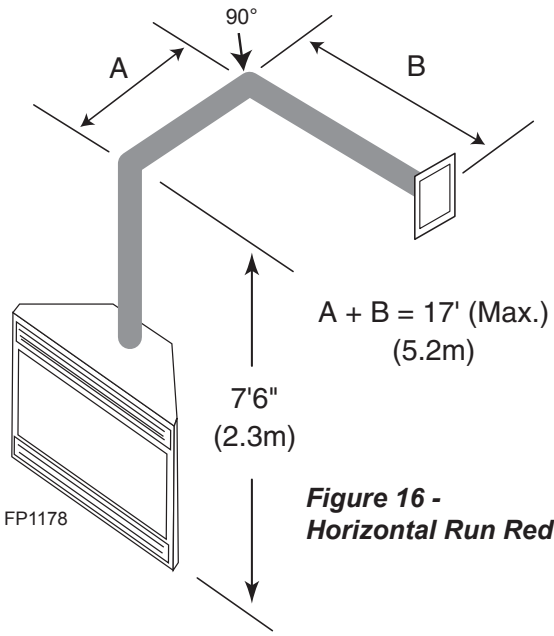


Figure 16 - Horizontal Run Reduction

Example: According to the vent graph (Page 14) the maximum horizontal vent length in a system with a 7½’ (2.3 m) rise is 20’ (6 m) and if a 90° elbow is required in the horizontal vent it must be reduced to 17’ (5.2 m).

In *Figure 17*, dimension A plus B must not be greater than 17’ (5.2 m)

- The maximum number of 45° elbows permitted per installation is six (6). These elbows can be installed in either the vertical or horizontal run.
- For each 45° elbow installed in the horizontal run, the length of the horizontal run MUST be reduced by 18” (457 mm). This does not apply if the 45° elbows are installed on the vertical part of the vent system.
- The maximum number of elbow degrees in a system is 270°. *Figure 17*

Example: Elbow 1 = 90°
Elbow 2 = 45°
Elbow 3 = 45°
Elbow 4 = 90°
Total angular variation = 270°

1 + 2 + 3 + 4 = 270°

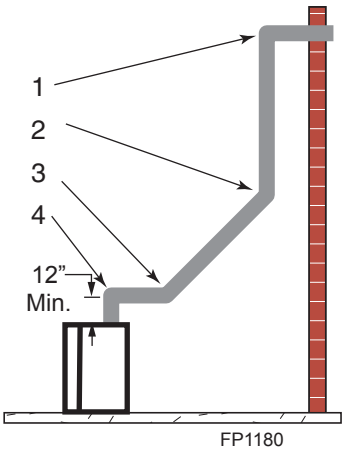


Figure 17 - Maximum Elbow Usage

VERTICAL SIDEWALL INSTALLATION - T-LOCK LOCK PIPE

Step 1

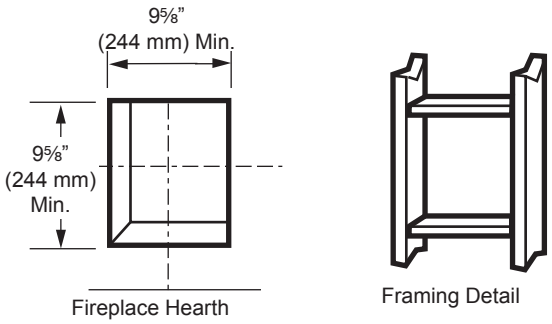
Locate vent opening on the wall. It may be necessary to first position the fireplace and measure to obtain hole location. Depending on whether the wall is combustible or noncombustible, cut opening to size. *Figure 18* (For combustible walls first frame in opening.)

NOTE: When using flex vent, the opening will have to be measured according to the 1/2" (13 mm) rise in 12" (305 mm) vent run.

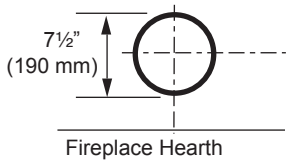
Combustible Walls: Cut a 9⅝"H x 9⅝"W (244 x 244 mm) hole through the exterior wall and frame as shown. *Figure 18*

Noncombustible Walls: Hole opening must be 7½" (191 mm) in diameter.

Vent Opening for Combustible Walls



Opening for Noncombustible Wall



FP2293

Figure 18 - Locate vent opening on wall.

Step 2

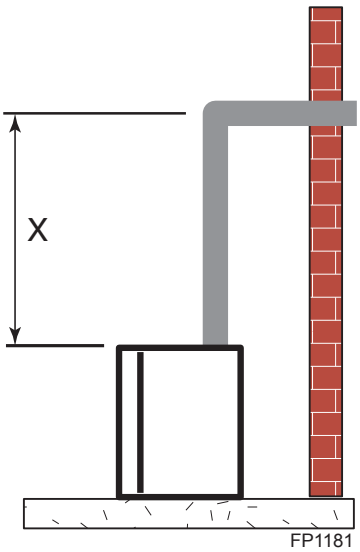
Secure firestop to the inside frame, center in the 9⅝" x 9⅝" vent opening.

Step 3

Place fireplace into position. Measure the vertical height (X) required from the base of the flue collars to the center of the wall opening. *Figure 19*

Step 4

Install the unitized T-lock vent pipe to the appliance collar, following T-Lock directions on Page 14. It is not necessary to seal this connection. If a 45° elbow is being used attach the elbow to the appliance in the same manner then attach the venting to the elbow.



FP1181

Figure 19 - Vertical Height Requirement

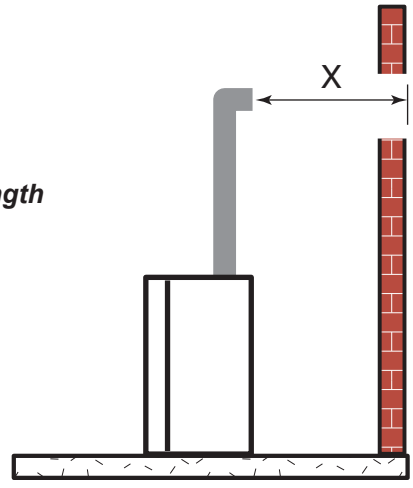
IMPORTANT: Pipe can be twisted in either direction. However, ALL PIPE MUST BE ROTATED IN THE SAME DIRECTION.

Securing the joints with sheet metal screws is not required.

Step 5

Measure the horizontal length requirement including a 2" (51 mm) overlap, i.e. from the elbow to the outside wall face plus 2" (51 mm) (or the distance required if installing a second 90° elbow). *Figure 20*

Always install horizontal venting on a level plane.



FP1182

Figure 20 - Horizontal Length Requirement

Step 6

Use appropriate length of pipe sections - telescopic or fixed - and install. The sections which go through the wall are packaged with the starter kit, and can be cut to suit if necessary.

Sealing vent pipe and firestop gaps with high temperature sealant will restrict cold air being drawn in around fireplace.

Step 7

Guide the vent terminations 4” and 7” collard into their respective vent pipes. Double check that the vent pipes overlap the collars by 2” (51 mm). Secure the termination to the wall with screws provided and caulk around the wall plate to weatherproof. As an alternative to screwing the termination directly to the wall, you may also use expanding plugs or an approved exterior construction adhesive. You may also attach the termination with screws through the inner body into the 4” vent pipe, however for this method, you must extend the 4” pipe approximately 6” (152 mm) beyond the outer face of the wall.

Support horizontal pipes every 36” (914 mm) with metal pipe straps.

VERTICAL SIDEWALL INSTALLATION - FLEX VENT PIPE

NOTE: The 40” (1016 mm) flex vent is used for 90° bend after a straight vertical section (12" min.) then out the back wall.

Follow Steps 1 - 3 on Page 17.

Step 4

Install the four (4) spacer springs on the 4” flex vent pipe. When installing the spacer springs around the 4” pipe, stretch the spring to approximately 15” (381 mm), wrap the spring around the pipe and interlock the ends of the spacer spring approximately 2” (51 mm). Measure 18¾” (476 mm) from the end of the pipe. Place the next spring 5” (127 mm) from the previously installed spring. Place the next spring 6” (152 mm) from the last spring. Finally place the last spring 12” (305 mm) from the last spring installed. *Figure 21*

Step 5

Install the 4” (102 mm) flex vent pipe to the appliance collar as described on Page 13. Secure the end with the first spring 18¾” (476 mm) from the flex pipe end to the unit.

Step 6

Slide the 7” (178 mm) flex vent pipe over the 4” flex vent pipe and secure the 7” collar as described on Page 13.

Step 7

Bend the flex pipe horizontal so the bottom of the horizontal pipe measure 18½” (470 mm) from the top of the unit immediately after the 90° formation. *Figure 22.* Be sure to follow the 1/2” (13 mm) rise in a 12” (305 mm) horizontal run rule.

Step 8

Install the 4” flex then 7” flex to the termination.

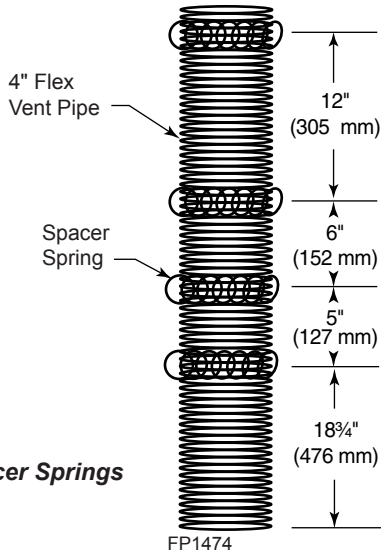


Figure 21 - Install Spacer Springs

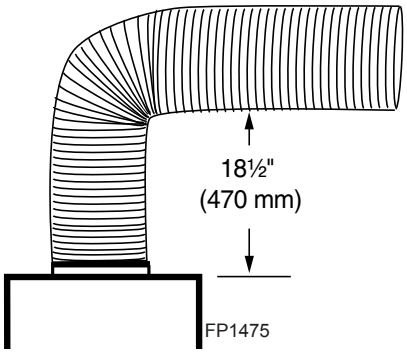


Figure 22 - Bend Flex Vent at 90° so Horizontal Portion is 18½" (470 mm) Off Top of Unit

BELOW GRADE INSTALLATION

When it is not possible to meet the required vent terminal clearances of 12” (305 mm) above grade level, a snorkel kit is recommended. It allows installation depth down to 7” (178 mm) below grade level. The 7” (178 mm) is measured from the center of the horizontal vent pipe as it penetrates through the wall.

Ensure the sidewall venting clearances are observed. If venting system is installed below ground, we recommend a window well with adequate and proper drainage to be installed around the termination area.

If installing a snorkel, a minimum 24” (610 mm) vertical rise is necessary. The maximum horizontal run with the 24” vertical pipe is 36” (914 mm). This measurement is taken from the collar of the fireplace (or transition elbow) to the face of the exterior wall. See the Sidewall Venting Graph for extended horizontal run if the vertical exceeds 24” (610 mm).

1. Establish vent hole through the wall. *Page 17, Figure 18*

2. Remove soil to a depth of approximately 16” (406 mm) below base of snorkel. Install drain pipe. Install window well (not supplied). Refill hole with 12” (305 mm) of coarse gravel leaving a clearance of approximately 4” (102 mm) below snorkel. *Figure 23*
3. Install vent system.
4. Ensure a watertight seal is made around the vent pipe coming through the wall.
5. Apply high temperature sealant caulking (supplied) around the 4” and 7” snorkel collars.
6. Slide the snorkel into the vent pipes and secure to the wall.
7. Level the soil so as to maintain a 4” (102 mm) clearance below snorkel. *Figure 23*

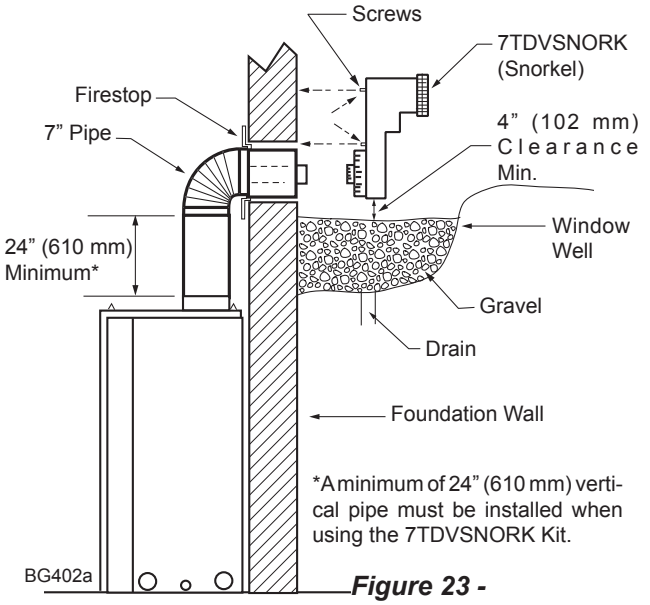


Figure 23 - Below Grade Installation

Do not back fill around snorkel.

A clearance of at least 4” must be maintained between the snorkel and the soil.

If the foundation is recessed, use recess brackets (not supplied) for securing lower portion of the snorkel. Fasten brackets to wall first, then secure to snorkel with self drilling #8 x 1/2 sheet metal screws. It will be necessary to extend vent pipes out as far as the protruding wall face. *Figure 24*

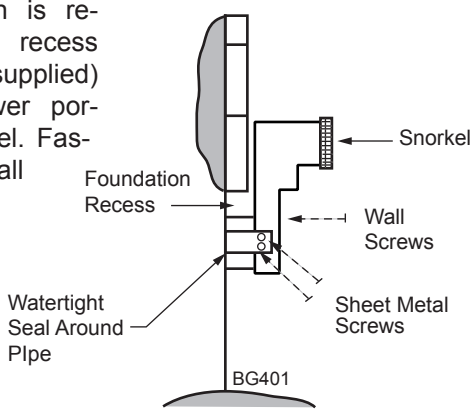


Figure 24 - Snorkel Installation, Recessed Foundation

VERTICAL THROUGH-THE-ROOF APPLICATION

his gas fireplace has been approved for:

- Vertical installations up to 40’ (12 m) in height. Up to a 10’ (3 m) horizontal vent run can be installed within the vent system using a maximum of two 90° elbows. *Figure 25*
- Up to two 45° elbows may be used within the horizontal run. For each 45° elbow used on the horizontal plane, the maximum horizontal length must be reduced by 18” (450 mm).

Example: Maximum horizontal length:

No elbows = 10’ (3 m)
1 x 45° elbow = 8.5’ (2.6 m)
2 x 45° elbows = 7’ (2.1 m)

- A minimum of an 8’ (2.5 m) vertical rise is required.
- Two sets of 45° elbow offsets may be used within the vertical sections. From 0 to a maximum of 8’ (2.5 m) of vent pipe can be used between elbows. *Figure 25*
- 7DVCS supports offsets. *Figure 29.* This application will require that you first determine the roof pitch and use the appropriate starter kit. (Refer to Venting Components List)
- The maximum angular variation allowed in the system is 270°. *Figure 26*
- For the minimum height of the vent above the highest point of penetration through the roof refer to *Figure 30*.

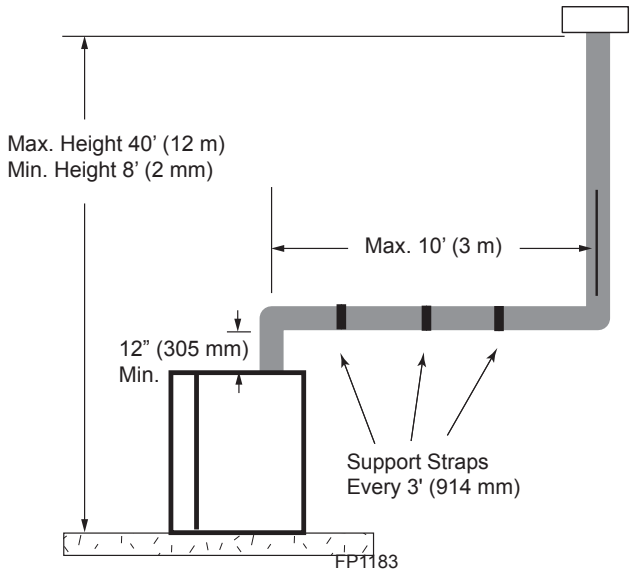


Figure 25 - Support Straps for Horizontal Runs

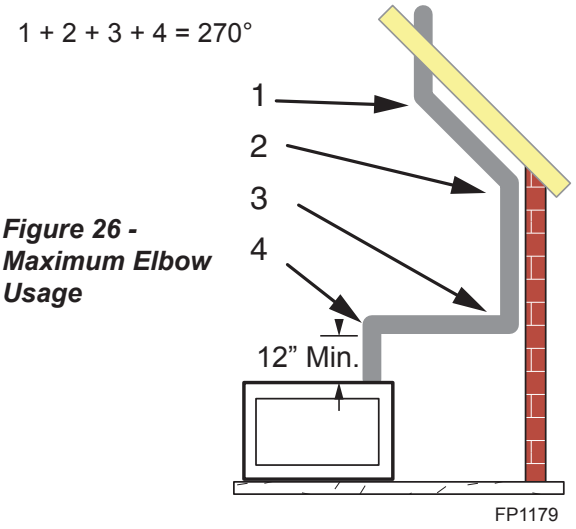


Figure 26 - Maximum Elbow Usage

VERTICAL THROUGH-THE-ROOF INSTALLATION

NOTE: For all top vent vertical through-the-roof installations, install the supplied cross-bar flue restrictor onto the top edge of the firebox flue adapter. *Figure 27*

1. Locate your fireplace.
2. Plumb to center of the (4”) flue collar from ceiling above and mark position.
3. Cut opening equal to 9¾” x 9¾” (248 x 248 mm).
4. Proceed to plumb for additional openings through the roof. In all cases, the opening must provide a minimum of 1 inch clearance to the vent pipe, i.e., the hole must be at least 9¾” x 9¾” (248 x 248 mm).
5. Place fireplace into position.
6. Place firestop(s) or Attic Insulation Shield into position and secure. *Figure 28*
7. Install roof support *(Figure 27)* and roof flashing making sure upper flange is below the shingles. *Figure 31*
8. Install appropriate pipe sections until the venting is above the flashing. *Figure 31*
9. Install storm collar and seal around the pipe.
10. Add additional vent lengths for proper height. *Figure 30*
11. Apply high temperature sealant to 4” and 7” collars of vertical vent termination and install.

Figure 27 - Vertical Through-the-Roof Restrictor (Part #69D3006)

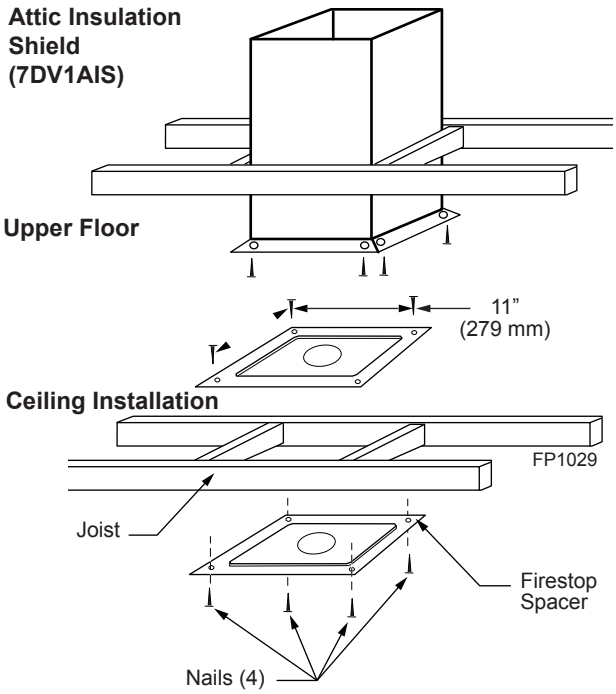


Figure 28 - Place Firestop Spacer(s) and Secure

If there is a room above ceiling level, fire stop spacer must be installed on both the bottom ad the top side of the ceiling joists. If an attic is above ceiling level an Attic Insulation Shield must be installed. The enlarged ends of the vent section always face downward.

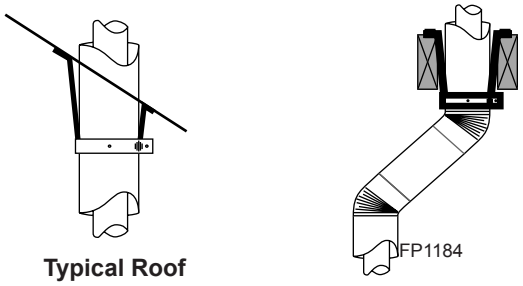


Figure 29 - Venting Supports

Roof Pitch	H (feet)	H (mm)
Flat to 6/12	1.0	305
Over 6/12 to 7/12	1.25	381
Over 7/12 to 8/12	1.5	457
Over 8/12 to 9/12	2.0	610
Over 9/12 to 10/12	2.5	762
Over 10/12 to 11/12	3.25	991
Over 11/12 to 12/12	4.0	1219

*H - Minimum height from roof to lowest discharge opening of vent

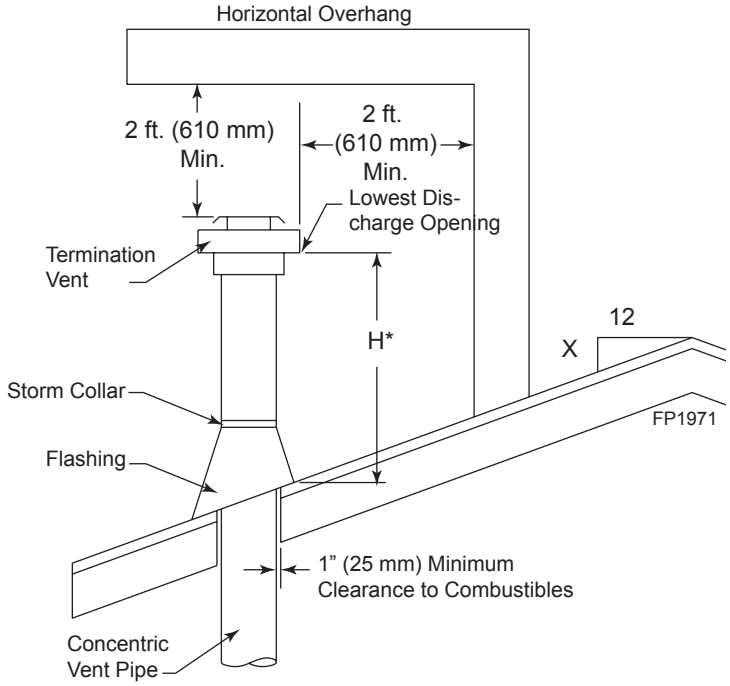


Figure 30 - Minimum Chimney Clearance

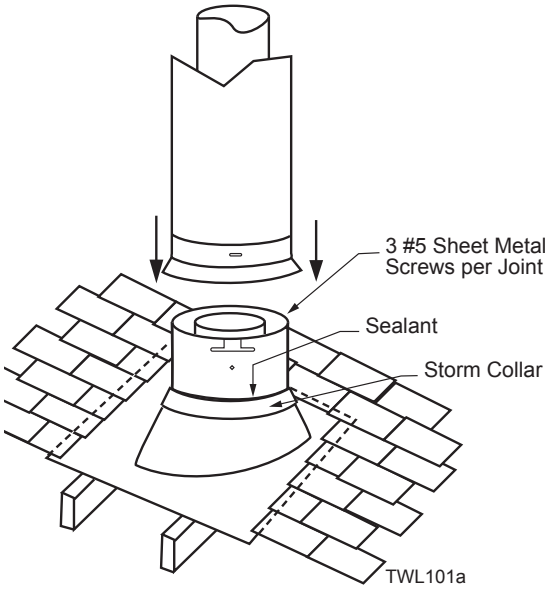


Figure 31 - Roof Flashing

CHECK GAS TYPE

Use proper gas type for the fireplace you are installing. If you have conflicting gas type, do not install fireplace. See dealer where you purchased the fireplace for proper fireplace for your gas type or conversion kit.

INSTALL GAS PIPING TO FIREPLACE / BURNER SYSTEM LOCATION

INSTALLATION ITEMS NEEDED

Before installing fireplace and burner system, make sure you have the items listed below.

- Piping (check local codes)
- Sealant (resistant to propane/LP gas)
- approved flexible gas line with gas connector (if allowed by local codes — not provided)
- Equipment shutoff valve*
- Sediment trap (recommended)
- Tee joint
- Pipe wrench
- External regulator (supplied by installer) - LP Only
- Test gauge connection*

* An equipment shutoff valve with a plugged tap is an acceptable alternative to test gauge connection.

CAUTION

Use only new black iron or steel pipe. Internally tinned copper or copper tubing can be use, providing gas meets hydrogen sulfide limits, and where permitted by local codes. Gas piping system must be sized to provide minimum inlet pressure (listed on data plate) at the maximum flow rate (kw). Undue pressure loss will occur if the pipe is too small.

When using copper or flex connectors use only fittings approved for gas connections. The gas control inlet is RP 1/2"-14 straight pipe thread.

WARNING

A qualified installer or service person must connect appliance to gas supply. Follow all local codes.

WARNING

Only persons licensed to work with gas piping may make the necessary gas connections to this appliance.

CAUTION

A manual shutoff valve must be installed upstream of the appliance. Union tee and plugged pressure tapping point should be installed upstream of the appliance. *Figure 32*

NOTE: The gas line connection may be made using 1/2" rigid tubing or an approved flex connector. Since some municipalities have additional local codes it is always best to consult your local authorities and the current edition of the National Fuel Gas Code.

IMPORTANT: Install main gas valve (equipment shutoff valve) in an accessible location. The main gas valve is for turning on or shutting off the gas to the fireplace.

Check your building codes for any special requirements for locating equipment shutoff valve to fireplaces.

Apply pipe joint sealant lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged burner system valve.

We recommend that you install a sediment trap/drip leg in supply line as shown in *Figure 32*. Locate sediment trap/drip leg where it is within reach for cleaning. Install in piping system between fuel supply and burner system. Locate sediment trap/drip leg where trapped matter is not likely to freeze. A sediment trap collects moisture and contaminants and keeps them from going into the burner system gas controls. If sediment trap/drip leg is not installed or is installed wrong, burner system may not run properly.

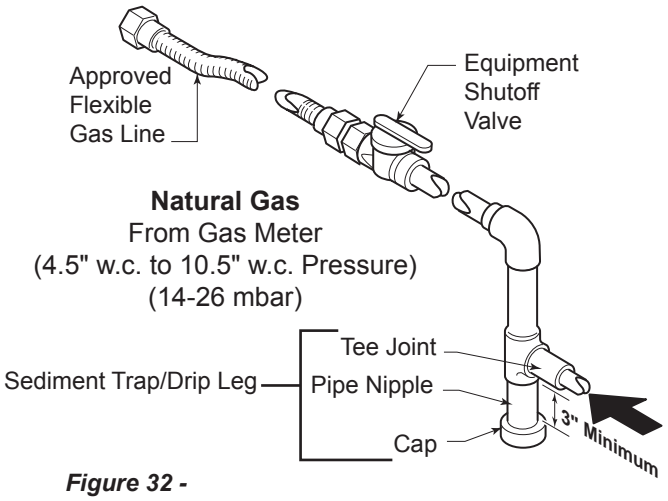


Figure 32 - Gas Connection

CAUTION: Use pipe joint sealant that is resistant to sulfur compounds.

MILLIVOLT - CHECKING GAS PRESSURE and ELECTRICAL INSTALLATION

1. Check gas type. The gas supply must be the same as stated on the appliance's rating decal. If the gas supply is different from the fireplace, **STOP!** Do not install the appliance. Contact your dealer immediately.
2. To ease installation, a 24" (610 mm) flex line with manual shut-off valve has been provided with on this appliance. Install and attach 1/2" gas line onto shut-off valve.
3. After completing gas line connection, purge air from gas line and test all gas joints from the gas meter to the fireplace for leaks. Use a solution of 50/50 water and soap solution or a gas sniffer.
4. To adjust flame height, turn HI/LO knob to HI to get maximum pressure to burner. Turn HI/LO knob to LO to get minimum pressure.
5. To check gas pressures at valve, turn captured screw counter clockwise 2 or 3 turns and then place tubing to pressure gauge over test point. Turn unit to high. *Figure 33.* After taking pressure reading, be sure and turn captured screw clockwise firmly to reseal. Do not over torque. Check test points for gas leaks.

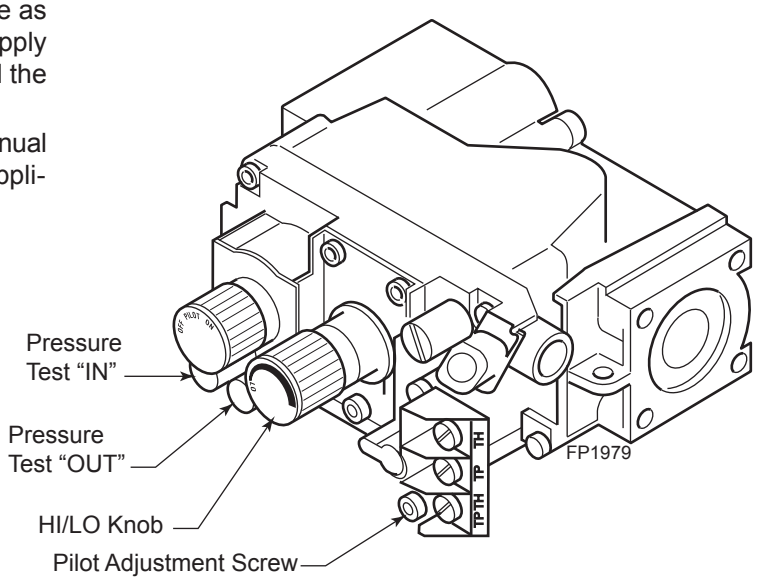


Figure 33 -
Gas Pressure Check at Gas Valve

WARNING

Do not use open flame to check for gas leaks.

ELECTRICAL WIRING

This fireplace will work without any electrical supply. Electricity is only needed to operate blower.

NOTE: If installed in mobile home, fireplace must be bolted securely to floor.

WARNING

Electrical connections should only be performed by a qualified, licensed electrician. Main power must be off when connecting to main electrical power supply or performing service. All wiring shall be in compliance with all local, city codes. The appliance, when installed, must be electrically grounded in accordance with local codes or in the absence of local codes.

CAUTION

Label all wires before disconnecting when servicing controls. Wiring errors can cause improper and dangerous operation.

Verify proper operation after servicing.

GLASS FRAME REMOVAL

1. Remove access panel by lifting up and out.
2. Release two clamps (500 model has three clamps) on bottom of fireplace. *Figure 34*
3. Tilt glass frame out and lift glass frame up until it clears three tabs on top of fireplace.
4. Set glass frame aside.

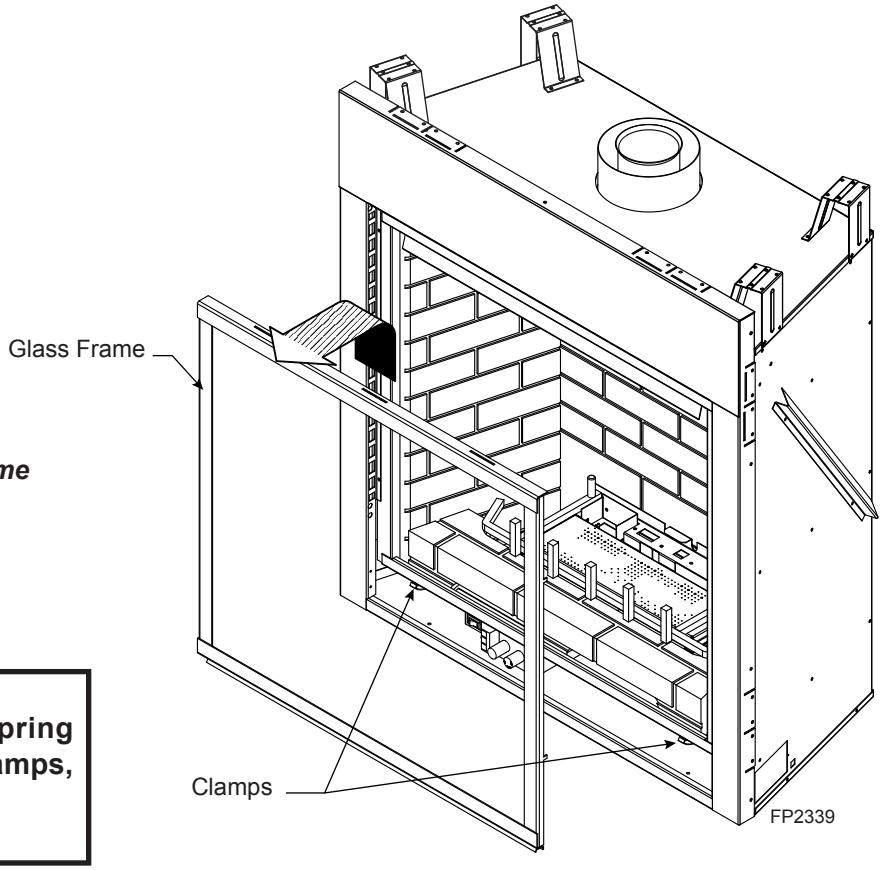


Figure 34 -
Removing Glass Frame

CAUTION

Each clamp has a quick spring force. When reinstalling clamps, keep fingers clear.

⚠ WARNING

HOT GLASS WILL CAUSE BURNS.

DO NOT TOUCH GLASS UNTIL COOLED.

NEVER ALLOW CHILDREN TO TOUCH GLASS.

REMOTE WALL MOUNTED SWITCH

A remote wall switch and up to fifteen (15) feet of 18 Ga. wire may be used with this appliance. Attach the wall switch in a junction box at the desired location on the wall. *Figure 35*. Do not extend beyond the wall switch wire length provided.

NOTE: Extended lengths of wire may cause the fireplace not to function properly. Longer length of wire is permitted if the wire is made out of larger gauge (diameter) wire. Always check with local code.

WARNING

Do not connect wall switch to (110 V) circuit.

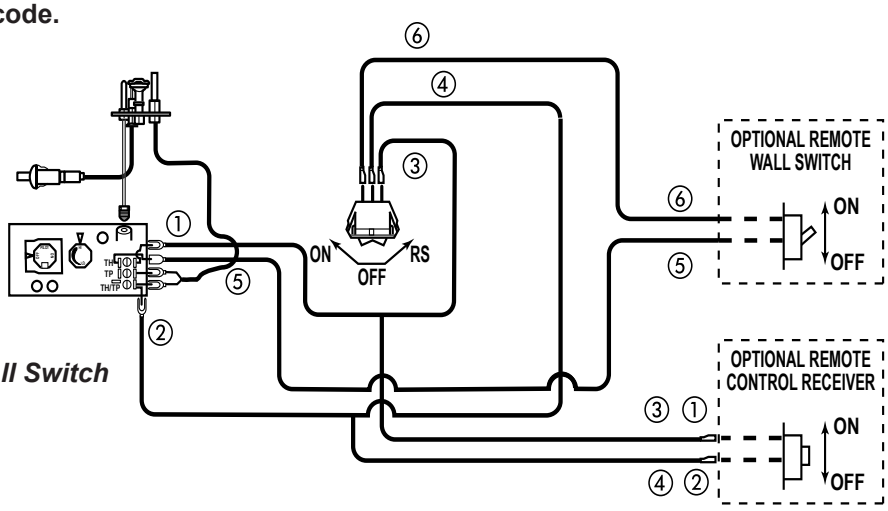


Figure 35 -
Wiring Diagram for Wall Switch

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING

If you do not follow these instruction exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance is equipped with a pilot which must be lit with built-in piezo ignitor while following these instructions exactly.

B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS:

- Turn off all gas to the appliance.
- Open windows.
- Do not attempt to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to push in, or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it. Call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part of it has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control that has been under water.

LIGHTING PILOT FOR THE FIRST TIME

INITIAL LIGHTING

Purge air from the supply line as follows:

- Open main shutoff valve.
- Unscrew main pressure test point.
- Leave inlet test screw open until gas comes in.
- When gas is flowing, tighten inlet screw immediately.

WARNING

Never use an open flame to check for gas leak.

LEAK TESTING

1. Follow the pipe from the gas supply line connection to the gas valve. Check connection for leaks with soap and water mixture.
2. Next check for gas leaks at the burner with soap and water mixture.
3. Check the pilot for gas leaks with soap and water mixture.

LIGHTING PILOT FOR THE FIRST TIME

APPROVED LEAK TESTING METHOD

You may check for gas leaks with the following methods only:

- Soap and water solution
- An approved leak testing spray
- Electronic sniffer

WARNING

If using a soap and water solution to test for leaks, DO NOT spray solution onto control body.

NOTE: Remove any excessive pipe compound from the connections. Excessive pipe compound can set off electronic sniffers.

DANGER

Never check for gas leak with open flame!

Check for gas leaks in each of the following locations:

- Pipe from the gas supply line connection to the gas valve
- Burner connections
- Pilot
- Each joint or connection
- Field made joints / gas shutoff valve
- Factory made joints
- All joints on valve and control body

LIGHTING PILOT

WARNING

The control has an interlock device that does not allow the lighting of the fireplace up to the moment the safety device of the flame has not interrupted the gas flow. After that period of time (when the magnet is closed), it is possible to start the lighting operation.

The gas control knob is designed to be operated by hand. DO NOT use any tools during this operation. Damaged knobs may result in serious injury.

1. Depress and turn knob counterclockwise ↶ to pilot position.
2. Depress fully and hold pilot gas knob. Depress piezo igniter as many times as needed to ignite pilot. Keep knob fully depressed for a few seconds. Release and check that pilot continues to burn.

If the pilot does not stay lit, repeat steps 1 and 2.

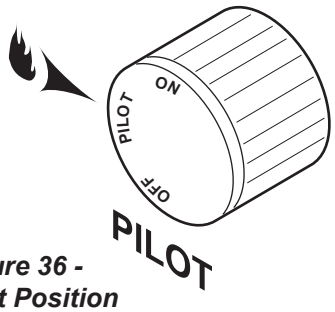


Figure 36 - Pilot Position

Continued on next page

LIGHTING BURNER

MAIN BURNER SWITCH

The “ON/OFF/RS” switch for the main burner can be found behind door of the fireplace. This switch allows you to turn on and to turn off the main burner without using the gas valve knob. Make sure the button is in the “ON” position to light the main burner. *Figure 37*

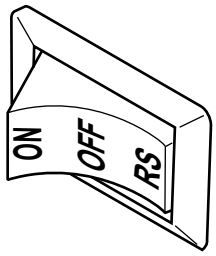


Figure 37 - On/Off/RS Switch

LIGHTING THE BURNER

Depress and turn the knob counterclockwise ↶ to the “ON” position. *Figure 38.* It will take less than four (4) seconds for the burner to ignite.

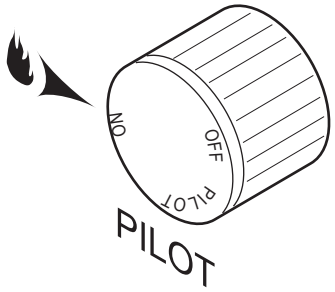


Figure 38 - On Position

PILOT POSITION

Depress and turn knob to pilot position to keep burner off while maintaining the pilot light. *Figure 39*

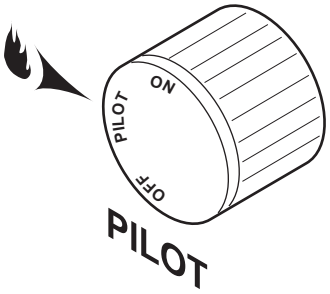


Figure 39 - Pilot Position

TO TURN OFF GAS

Depress and turn knob clockwise ↷ to “OFF” position. *Figure 40*

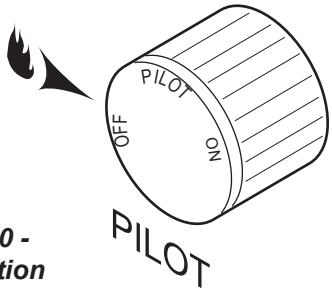


Figure 40 - Off Position

HEARTH BRICK PLACEMENT

Place the hearth brick centered in front of burner and slide back until it hits the stops on the right and left of burner.

ROCK WOOL PLACEMENT

1. Place rock wool on burner to provide glowing embers. For best results, pull the rock wool apart into pieces the size of a dime or smaller.
2. Distribute one layer of rock wool to cover the burner. *Figure 41*
3. Place the logs on the burner. Refer to *Log Placement* below. Light unit and after 15 minutes, check burner flame and glow. Refer to *Burner Flame*, Page 31.

If the flame is blue and only in the center, turn off unit and let cool. After unit cools, remove logs. If the back holes are clear, add more rock wool to the center of the burner. Replace logs and check flame again. Save left over rock wool to refresh when cleaning later. Too much rock wool can disturb the flame and cause sooting on the glass or logs.

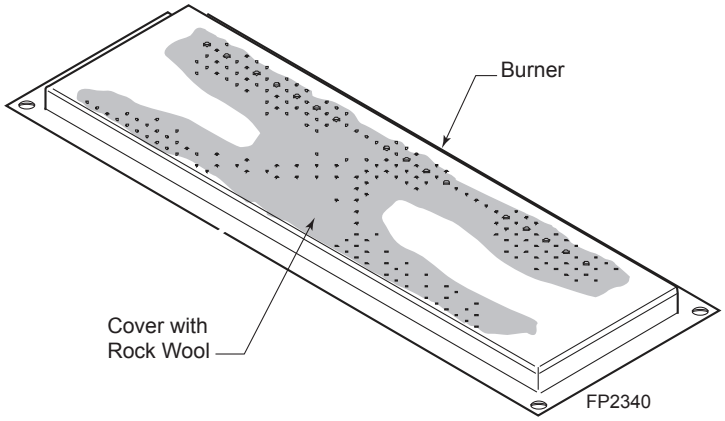


Figure 41 -
Placement of Rock Wool on Burner

WARNING

Do not use the entire bag of rock wool to cover the burner. This could cause the flame to burn poorly and may lead to sooting.

LOG PLACEMENT

1. Place the rear log (#1) in place by sliding it over the rear pins on the right and the left.
2. Place the left front log (#5) over the burner and grate by matching the holes on the bottom of the log with the pin on the burner. Also match the cut-out on the bottom of the log with the bars on the grate. **NOTE:** When this log is in place pull towards the front.
3. Place the right front log (#4) over the burner and grate by matching the hole on the bottom of the log with the pin on the burner. Also match the cut-out on the bottom of the log with bars on the grate. **NOTE:** When this log is in place pull forward.
4. Place the front upper right log (#3) on top of the front log by matching the rectangular notch on the bottom of this log with the rectangular protrusion on top of the front right log. Slide this log toward the middle of the burner until the pointed end comes in contact with the pointed end on the left front log. **NOTE:** It is critical to place this log properly, otherwise it will affect the flame and the performance of the unit.

LG648

Figure 42 -
Rock wool placement

5. Place the middle cross log (#6) by matching the rectangular notch on the bottom of this log with the rectangular protrusion of the rear log toward the left. The narrow pointed end will line up between the second left tong and the middle tong on the grate.
6. Place the top right log (#2) by resting it over the upper right log and the rear log. This log will curve to the middle as it rests over the rear log.

Step 1 - Rear Log (#1)

Step 2 & 3 - Right (#4) and Left (#5) Front Log

Step 4 -
Front Upper Log (#3)

Step 5 -
Middle Cross Log (#6)

Step 6 -
Top Right Log (#2)

WARNING **Turn off gas before servicing fireplace. It is recommended that a qualified service technician perform these check-ups at the beginning of each heating season**

BURNER, PILOT AND CONTROL COMPARTMENT

Keep the control compartment, logs, and burner areas surrounding the logs clean by vacuuming or brushing at least twice a year. Make sure the burner porting, pilot air opening and burner air opening are free of obstructions at all times.

PILOT FLAME

The flames from the pilot should be visually checked as soon as the heater is installed and periodically during normal operation. **The pilot flame must always be present when the fireplace is in operation.** *Figure 43*. The pilot flame has three distinct flames, one engulfing the thermopile, one engulfing the thermocouple or sensor, and the other reaching to the main burner.

BURNER

Inspect area around the injector. Remove any lint or foreign material with a brush or vacuum.

BURNER FLAME

The flames from the burner should be visually checked as soon as the heater is installed and periodically during normal operation. In normal operation, at full rate, and after operating for about 15 to 30 minutes, the flame should be yellow and slightly taller than the rear log. *Figure 44*

If the flame is blue and only in the center, turn off unit and let cool. After unit is cool, remove logs and check to make sure the back holes in the burner are not covered with rock wool. If the back holes are clear, add more rock wool to the center of the burner. Replace logs.

NOTE: The type of installation, vent system configuration, and wind effects may cause the flame patterns to vary.

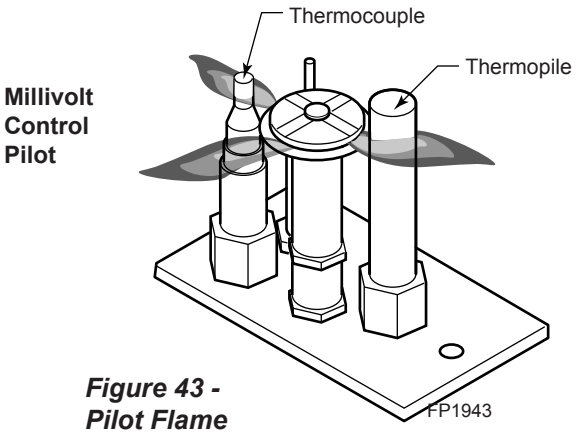


Figure 43 - Pilot Flame

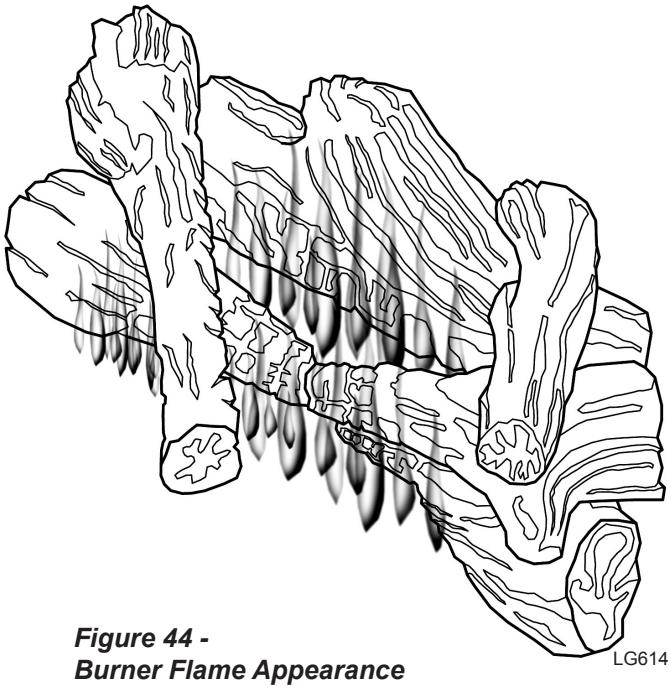


Figure 44 - Burner Flame Appearance

VENT SYSTEM

The fireplace and venting system should be inspected before initial use and at least annually by a qualified field service person. Inspect the external vent cap on a regular basis to make sure that no debris is interfering with the airflow. Inspect entire venting system to ensure proper function.

GLASS DOOR

Thoroughly clean the inside of the glass door after using the fireplace for ten hours. Periodically clean the glass door as necessary.

When cleaning the glass, remember:

- **Do not remove the glass when hot.** Allow glass to cool before removal.
- NEVER use abrasive materials.
- Keep children and pets a safe distance away.
- Never operate the fireplace without the glass door properly secured.
- Never operate the fireplace if the glass is broken.
- Replace any glass that is chipped, cracked, or broken. Replacement glass door assemblies MUST be supplied by the fireplace manufacturer – **No substitute materials may be used.**
- Handle glass door with care to avoid striking or scratching it on hard objects.

To clean glass door, follow “Glass Removal” procedure outlined in the *Final Installation* section. Film deposit on the inside of the glass should be cleaned off using a nontoxic, non-corrosive, non-abrasive, mild-cleaning solution. Simply apply an adequate amount to the glass and wipe off with a damp cloth. After all maintenance has been completed, re-install glass door.

LOGS

Leave logs installed in the fireplace for cleaning. Vacuum surface of the logs with a brush attachment. If logs must be removed for cleaning, handle carefully by holding gently at each end. Gloves are recommended to prevent skin irritation from ceramic fibers. If skin becomes irritated, wash gently with soap and water. Vacuum surface of logs with brush attachment or brush logs with a soft bristle brush (i.e. clean, dry paintbrush). To place logs back in the fireplace, see “Log Placement” found in the *Final Installation* section.

NOTE: Do not use fluids to clean ceramic fiber logs.

ROCK WOOL

Replace or add rock wool as required following installation instructions in the *Final Installation* section of this manual.

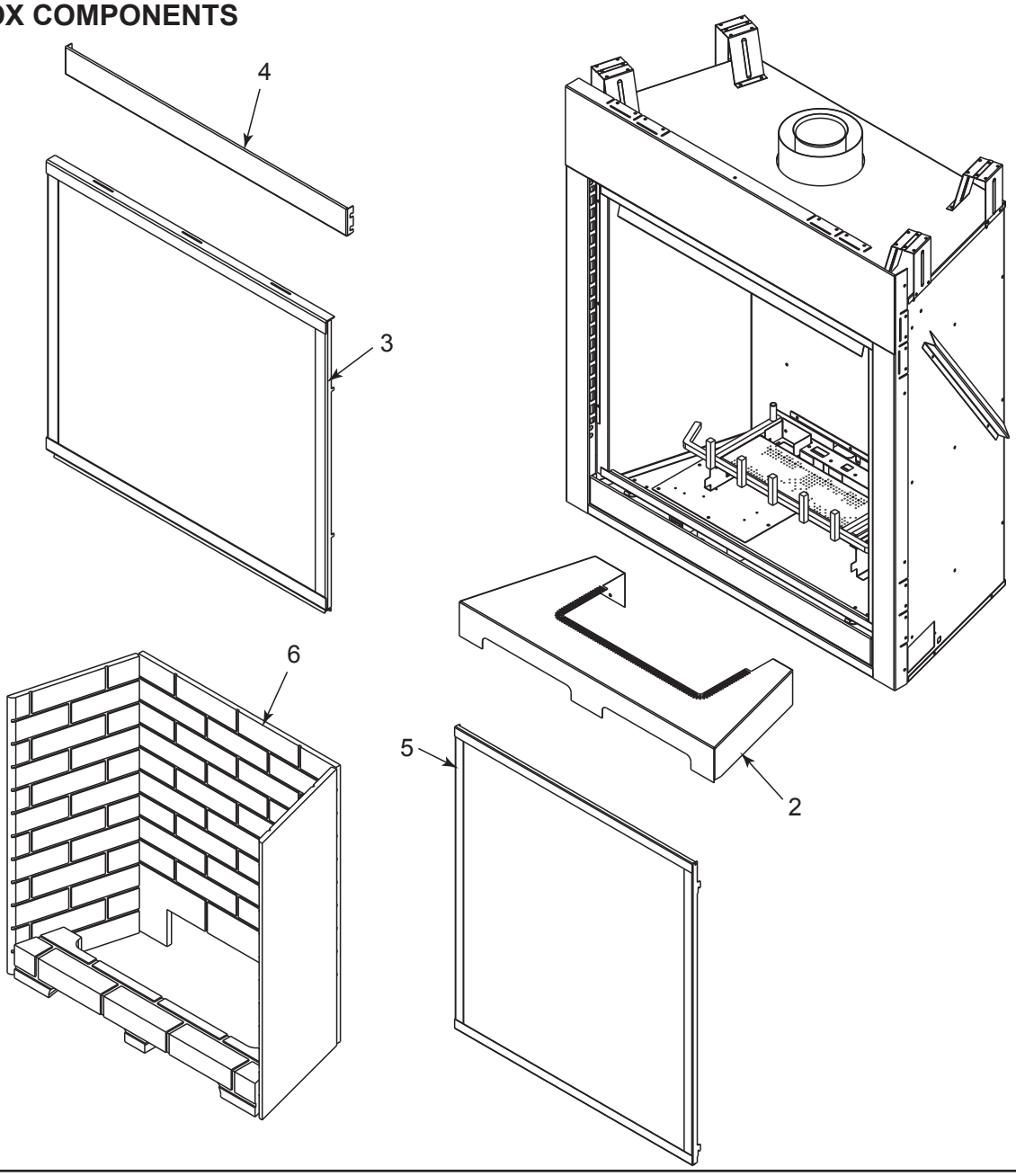
STANDING PILOT IGNITION MILLIVOLT SYSTEM

SYMPTOM	POSSIBLE CAUSE	ACTION
1. Spark ignitor will not light pilot after repeated triggering of piezo.	A. Wire disconnected.	A. Open door and check to make sure wire is connected to ignitor.
	B. Defective ignitor.	B. Check for spark at electrode and pilot. If no spark and electrode wire is properly connected, replace pilot assembly.
	C. No gas or low gas pressure.	C. Check remote/manual shut off valve from fireplace. Low pressure can be caused by bent lines, restricted lines, low pressure line pressure. Consult with plumber or gas supplier.
	D. No Propane/LPG in tank	D. Check Propane/LPG tank. Refill tank.
2. Pilot will not stay lit after carefully following lighting instructions.	A. Defective thermocouple	A. Check that thermocouple flame impinges on thermocouple. Clean and/or adjust pilot for maximum flame impingement. Ensure that the thermocouple connection at the gas valve is fully inserted and tight. Disconnect the thermocouple from the valve, place one millivolt lead wire on the tip of the thermocouple and the other meter lead wire on the thermocouple copper lead. Start the pilot and hold the valve knob in. If the millivolt reading is less than 15 mV, replace pilot assembly.
	B. Defective valve	B. If thermocouple is producing more than 15 mV, replace faulty valve.
3. Pilot burning, valve knob turned to “ON”, switch is turned to “ON” or “RS”, but burner will not ignite.	A. Defective switch, wall switch, remote control or wire	A. Check switch and wire for proper connection. Place jumper wires across terminals of switch. If burner comes on, replace defective switch.If the switch is OK, repeat the same procedure on remote control If burner comes on, replace remote control. Place jumper wire across wire at gas valves (terminals marked TH and TP/TH). If burner comes on, wires are faulty or connections are bad. Replace wire.
	B. Pilot flame too small	B. If pilot flame is not close enough to the thermopile, adjust pilot flame.
	C. Defective or malfunctioning thermopile	C. Check thermopile wire connections to make sure all are tight and that the thermopile is fully inserted into pilot assembly. Check thermopile with a millivolt meter. Connect leads to TP and TP/TH terminals on the control valve. If meter reading is below 325 mV, replace pilot assembly.
	D. Defective valve	D. Turn valve knob to “On” and switch to “ON.” Take a reading at the thermopile leads (TP & TP/TH) on the valve. If the meter reads greater than 175 mV and the burner does not light, replace defective valve.

STANDING PILOT IGNITION MILLIVOLT SYSTEM

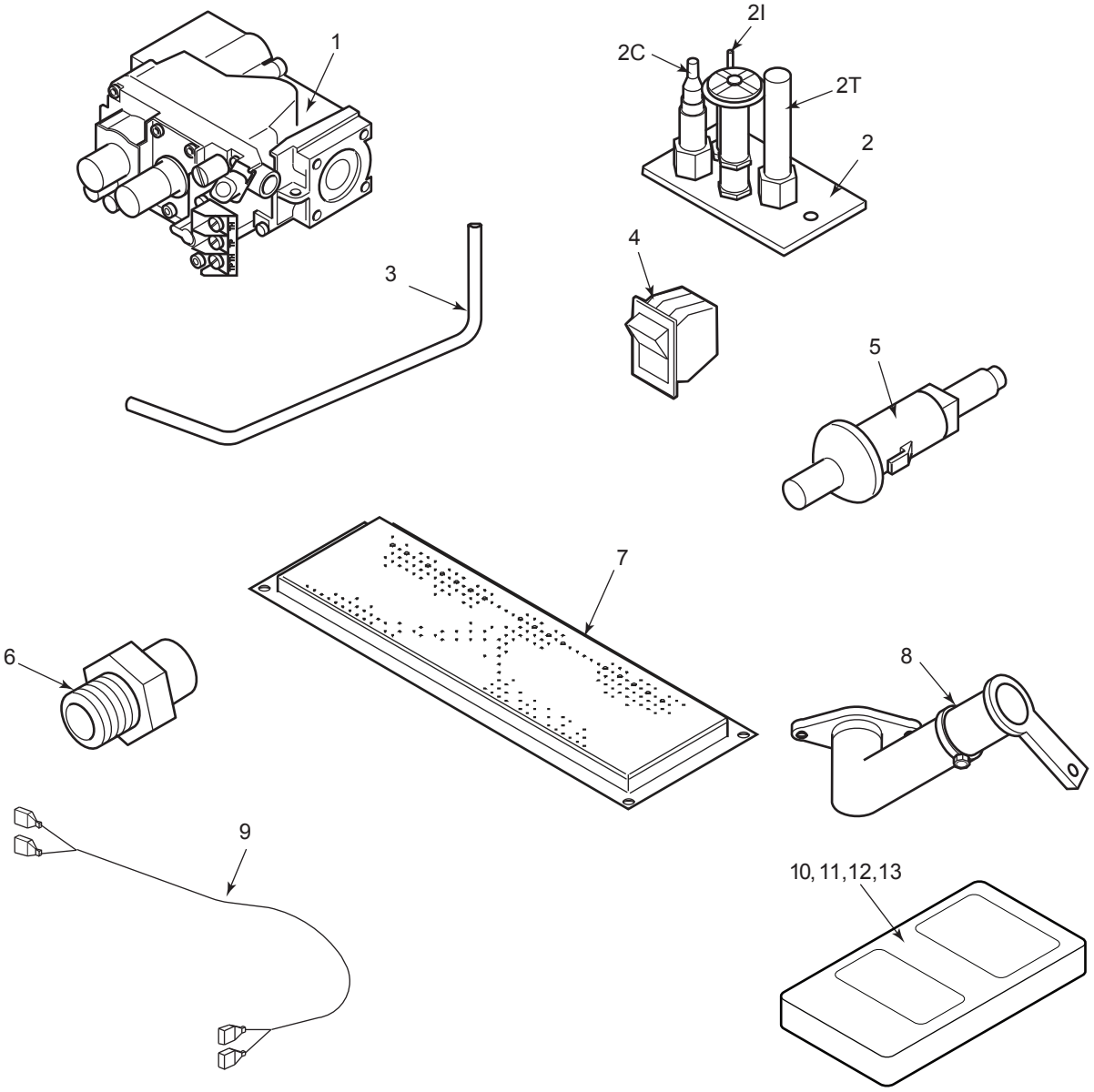
SYMPTOM	POSSIBLE CAUSE	ACTION
4. Frequent pilot outage problem.	A. Pilot flame may be too high or too low, causing pilot safety to drop out	A. Clean and adjust the pilot flame for maximum flame impingement on thermocouple.
5. The pilot and main burner extinguish while in operation	A. Inner vent pipe leaking exhaust gases back into system B. Horizontal vent improperly pitched C. Improper vent cap installation	A. Check for flue product leak. Replace defective pipe section. B. Check horizontal-venting piping is running upward 1/4" per foot. Do not run the pipe level or downward. C. Check for proper installation and freedom from debris or blockage.
6. Glass Soots	A. Flame impingement on logs	A. Install log set per the instructions Inspect the injector and air intake area. Make sure this area does not have any blockage from debris and clean. Check gas supply.
7. Flame burn blue and lifts off burner (ghosting)	A. Insufficient oxygen being supplied	A. Ensure that the vent cap is installed properly and free of debris. Ensure that the vent system joints are tight and have no leaks. Ensure that no debris has been blocking the inner air intake at the bottom back of the combustion chamber. Ensure that the glass is properly secure and latch.

FIREBOX COMPONENTS



Ref.	Description	Qty.	400DVBL
1.	Junction Box Assy (not shown)	1	26D2128K
2.	Sheet Metal Base	1	74D0514
3.	Glass Frame Assy	1	74D0096K
4.	Control Cover	1	74D0038K
	Accessories / Field Installed Options		
5.	Decorative Mesh Glass Cover	1	BLDV400SD
6.	Firebrick Set - Tavern Brown	1	FBBLDV400TB
6.	Firebrick Set - Cottage Red	1	FBBLDV400CR
6.	Firebrick Set - Olde English	1	FBBLDV400OE

STANDING PILOT — MILLIVOLT CONTROL



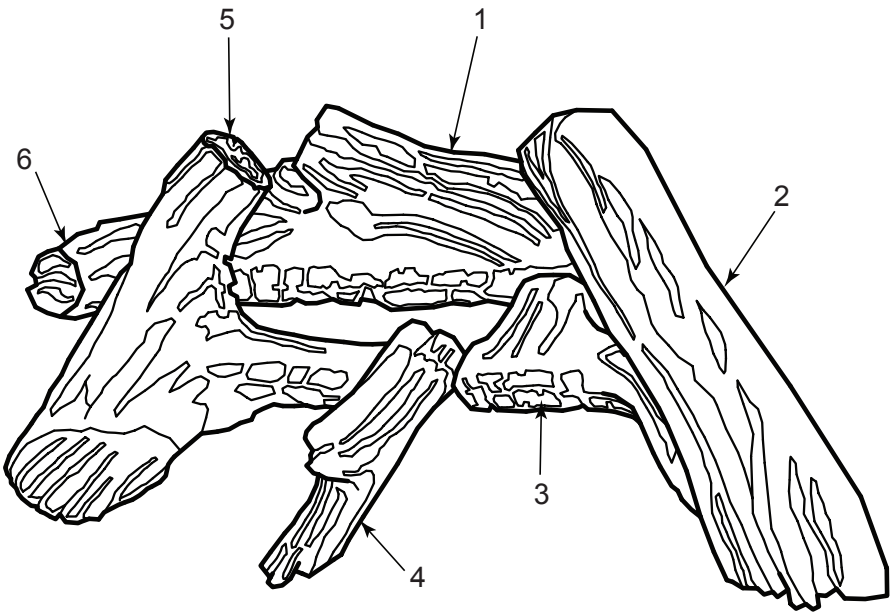
STANDING PILOT — MILLIVOLT CONTROL

Ref.	Description	Qty.	400DVBLNV7	400DVBLPV7
1.	Gas Valve Assy	1	37D0117	37D0118
2.	Pilot Assy	1	37D0018	37D0019
2C.	Replacement Thermocouple	1	37D1067	37D1067
2I.	Replacement Igniter & Wire	1	37D1069	37D1069
2T.	Replacement Thermopile	1	37D1068	37D1068
3.	Burner Tube	1	74D0049K	74D0049K
4.	Rocker Switch	1	41D0048	41D0048
5.	Piezo Igniter	1	14D0503	14D0503
6.	Injector	1	20H3147	33D5039
7.	Burner Assy	1	74D0098K	74D0098K
8.	Venturi	1	69D1119	69D1026
9.	Wire Assy	1	44D0500	44D0500
9.	Wire Assy	1	44D0501	44D0501

Accessories

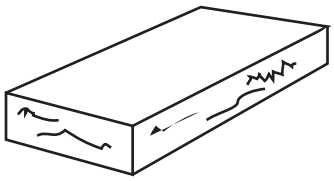
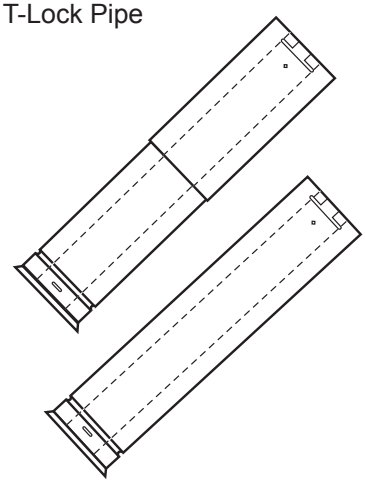
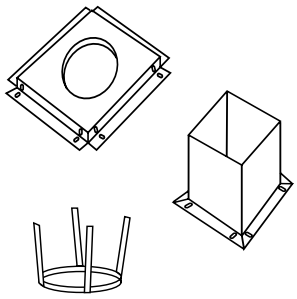
10.	Thermostatic Remote Control	1	RCST / RCT / RCSTEB / RCSITE / WWTD
11.	Remote Control On/Off	1	RCB / RCBE / RCMT / WMTD
12.	Wall Switch Kit	1	MVWS
13.	Wall Thermostat Kit	1	WT
14.	Forged Andiron 8¾	1	FAI83/4

LOGS

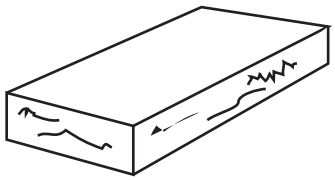
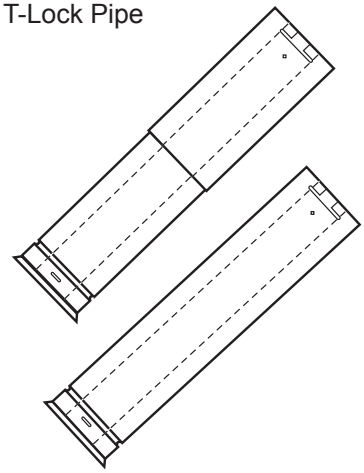
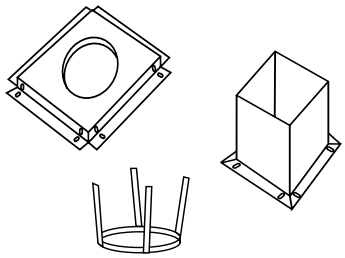


Ref.	Description	Qty.	400DVBL
1.	Rear Log #1	1	74D0059
2.	Top Right Log #2	1	74D0060
3.	Front Upper Log #3	1	74D0061
4.	Right Front Log #4	1	74D0062
5.	Left Front Log #5	1	74D0063
6.	Middle Cross Log #6	1	74D0064

VERTICAL VENTING

	Description	Model Number
Vertical Vent Termination Kits 	Vertical Vent Termination w/ Storm Collar (flashing NOT included)	47TLVTK
	Vertical Vent Termination w/ Storm Collar - 8 pack (flashing NOT included)	47TLVTK/8
	Vertical Vent Termination w/ 1/12 - 6/12 Flashing, Storm Collar and Ceiling Support Kit	47TLVTKA
	Vertical Vent Termination w/ 6/12 - 12/12 Flashing, Storm Collar and Ceiling Support Kit	47TLVTK8
	Vertical Vent Termination w/ Flat Flashing, Storm Collar and Ceiling Support Kit	47TLVTKC
T-Lock Pipe 	30" Flex Pipe - single pack	7FDVP30
	12" - 18" Adjustable Vent Length	47TL1218
	35" - 64" Adjustable Vent Length	47TL3564
	8" Vent Pipe - 4 pack	47TL8/4
	12" Vent Pipe - 4 pack	47TL12/4
	24" Vent Pipe - 4 pack	47TL24/4
	36" Vent Pipe	47TL36
	36" Vent Pipe - 30 pack	47TL36/30
	48" Vent Pipe	47TL48
	48" Vent Pipe - 30 pack	47TL48/30
T-Lock Elbows	45° Elbow for Vertical/Horizontal Offset	47TLE45
	45° Elbow for Vertical Offsets - 8 pack	47TLE45/8
	90° Elbow for Vertical/Horizontal Offset	47TLE90
	90° Elbow for Vertical/Horizontal Offset - 8 pack	47TLE90/8
Shields and Supports 	1" Firestop	7DV1FS
	1" Attic Insulation Shield	7DV1AIS
	Combination Horizontal Offset/Roof Support	7DVCS

HORIZONTAL VENTING

	Description	Model Number
Horizontal Vent Termination Kits 	Rear Vent Hot Touch Termination Kit w/ 10" to 16" Adjustable Termination Pipe, Firestop, and Hot Touch Termination w/ Siding Shield	477TLBRTK
	Up and Out Side Wall Termination Kit w/ 10" to 16" Adjustable Termination Pipe, 90° Elbow, Firestop, and Cool Touch Termination w/ Siding Shield	47TLSTK
	Rear Vent Cool Touch Termination w/ Siding Shield for Straight-out Applications and Firestop - 8 pack	7TRVCT/8
	Rear Vent Hot Touch Termination w/ Siding Shield for Straight-out Applications and Firestop - 8 pack	7TRVHT/8
	Termination Guard for 7" T.L. Rear Vent Hot Touch Terminations 97TRVT/7TSVKT)	7TRVTG
	Snorkel Termination	7TDVSNORK
	7" T.L. DVRTSB Termination Screen Guard	7TBSG
	Up and Out Starter Kit w/ 40" Flex Pipe, Firestop, Cool Touch Termination w/ Siding Shield, and 2 ea. Clamp Bands	7FDVSCTK
T-Lock Pipe 	20" Termination Pipe - 8 pack	47TLT20/8
	10" - 16" Adjustable Termination Pipe - 4 pack	47TLAT/4
	12" - 18" Adjustable Vent Length	47TL1218
	35" - 64" Adjustable Vent Length	47TL3564
	8" Vent Pipe - 4 pack	47TL8/4
	12" Vent Pipe - 4 pack	47TL12/4
	24" Vent Pipe - 4 pack	47TL24/4
	36" Vent Pipe	47TL36
	36" Vent Pipe - 30 pack	47TL36/30
	48" Vent Pipe	47TL48
	48" Vent Pipe - 30 pack	47TL48/30
T-Lock Elbows	45° Elbow for Vertical/Horizontal Offset	47TLE45
	45° Elbow for Vertical Offsets - 8 pack	47TLE45/8
	90° Elbow for Vertical/Horizontal Offset	47TLE90
	90° Elbow for Vertical/Horizontal Offset - 8 pack	47TLE90/8
Shields and Supports 	1" Firestop	7DV1FS
	3" Firestop	7DV3FS
	1" Attic Insulation Shield	7DV1AIS
	Combination Horizontal Offset/Roof Support	7DVCS

LIMITED LIFETIME WARRANTY POLICY

LIFETIME WARRANTY

The following components are warranted for life to the original owner, subject to proof of purchase: Firebox, Combustion Chamber, Heat Exchanger, Grate and Stainless Steel Burners.

FIVE YEAR WARRANTY

The following components are warranted five (5) years to the original owner, subject of proof of purchase: Ceramic Fiber Logs.

BASIC WARRANTY

MHSC warrants the components and materials in your gas appliance to be free from manufacturing and material defects for a period of two years from date of installation. After installation, if any of the components manufactured by MHSC in the appliance are found to be defective in materials or workmanship, MHSC will, at its option, replace or repair the defective components at no charge to the original owner. MHSC will also pay for reasonable labor costs incurred in replacing or repairing such components for a period of two years from date of installation. Any products presented for warranty repair must be accompanied by a dated proof of purchase.

This Limited Lifetime Warranty will be void if the appliance in not installed by a qualified installer in accordance with the installation instructions. The Limited Lifetime Warranty will also be void if the appliance is not operated and maintained according to the operating instructions supplied with the appliance, and does not extend to (1) firebox/burner assembly damage by accident, neglect, misuse, abuse, alterations, negligence of others, including the installation thereof by unqualified installers, (2) the costs of removal, reinstallation or transportation of defective parts on the appliance, or (3) incidental or consequential damage. All service work must be performed by an authorized service representative.

This warranty is expressly in lieu of other warranties, express or implied, including the warranty of merchantability of fitness for purpose and of all other obligations or liabilities. MHSC does not assume for it any other obligations or liabilities in connection with sale or use of the appliance. It states that do not allow limitations on how long an implied warranty lasts, or do not allow exclusion of indirect damage, those limitations of exclusions may not apply to you. You may also have additional rights not covered in the Limited Lifetime Warranty.

MHSC reserves the right to investigate any and all the claims against the Limited Lifetime Warranty and decide upon method of settlement.

IF WARRANTY SERVICE IS NEEDED...

1. Contact your supplier. Make sure you have your warranty, your sales receipt and the model/serial number of your MHSC product.
2. DO NOT ATTEMPT TO DO ANY SERVICE WORK YOURSELF.

MHSC

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